

XXXVIII.—*On the Birds procured by the Earl of Ranfurly in New Zealand and the adjacent Islands.* By W. R. OGILVIE-GRANT.

(Plate XII.)

TOWARDS the end of 1897 a communication was sent to the Earl of Ranfurly, Governor of New Zealand, requesting him, if possible, to obtain examples of birds from that Colony and the adjacent islands for the British Museum (Natural History).

With this object in view, Lord Ranfurly ordered a large number of jars of various sizes to be made, and forwarded them filled with formaline solution to a few gentlemen who had undertaken to assist him. On the 29th December, 1900, Lord Ranfurly started in the Government steamer 'Hinemoa' for the Bluff, and visited the outlying islands—namely, the Snares, Campbell, Auckland, Antipodes, and Bounty. Capt. Hutton, the Curator of the Christchurch Museum, was his guest, and, from his knowledge of natural history, largely assisted in the formation of the collection made during this trip. Dr. Collins, of Wellington, also accompanied the expedition, besides the members of Lord Ranfurly's staff. At each island thorough search was made to procure examples of all the species of birds, and these were immediately treated with formaline after a sketch had been made to shew the colour of the bill, eyes, and feet. The birds were then packed in jars, and forwarded in consignments to the British Museum. As this was a sea-trip, aquatic birds naturally formed a large part of the collection, Cormorants being especially numerous. One of these, obtained on the Bounty Islands, proved to belong to a species hitherto undescribed, and was named *Phalacrocorax ranfurlyi*. Lord Ranfurly had asked the captains of the various British cruisers in New-Zealand waters to get any specimens obtainable, and he had also written to the Resident of the Cook and Harvey Islands with a view to obtaining the birds found on those groups. Subsequently Commander J. P. Rolleston,

of H.M.S. 'Archer,' procured living specimens of *P. ranfurlyi* from the Bounty Islands and skins of several other species; Lt. Kennett Dixon, also of H.M.S. 'Archer,' forwarded an example of the rare Merganser (*Merganser australis*) from Auckland Island and a number of other birds in formaline; and Commander R. F. Ayscough, H.M.S. 'Ringdove,' sent the skin of a new species of Weka Rail (*Ocydromus scotti*) from Stewart Island, as well as other skins of birds.

A second trip was made in the year 1901 on the s.s. 'Tutanekai.' Starting on the 20th December, Lord Ranfurly visited the same islands with the addition of the Macquaries, where examples of *Phalacrocorax traversi* were procured. This Cormorant was new to the British Museum Collection. Here also two white examples of the "Nelly" (*Ossifraga gigantea*) were shot. This white form was considered to be extremely rare, as no other specimens were seen.

Two trips were made at other dates to the Cook and Harvey Islands, visiting Penrhyn, Niue, Tonga, and the Kermadecs. As these trips were strictly official, and were entirely occupied by business, no birds could be collected, but jars filled with formaline solution were left at various places with people who undertook to procure specimens. Some of these jars have since been returned, but a large number are still to come, and may in time be productive of good results. The Southern Islands may be generally classed as uninhabited, and, when visiting them, there is therefore no official work to be done.

Obtaining specimens of the Southern Merganser (*Merganser australis*) proved a difficult task. A visit to the comparatively well-known harbours produced no result, and Lord Ranfurly therefore entered every sound in the Auckland Islands, the only place where these Mergansers are known to exist. To show how scarce they are, a gentleman went round the crew of the Government steamer, prior to its sailing from the Bluff, and offered £3 10s. to any of the men who would procure a skin for him. As this offer was made with a view to reselling, probably at a large profit, the rareness of this duck may be easily understood.

During these two trips six examples of *Merganser australis*

were obtained, and two more young birds were seen, but not disturbed.

Care was always taken not to shoot anything that was not required, and possibly in this way a few birds may have been overlooked. The skins sent from the Kermadecs, collected by the only family residing there, were purchased by Lord Ranfurly and forwarded to the British Museum. This collection consisted entirely of sea-birds, but a number of the skins represented rare species of Petrels, and proved a valuable addition to the National Collection. The trip to the islands was almost invariably accompanied by rough weather, and on one occasion at the Antipodes Island the barometer fell over an inch in twenty-four hours, registering 28.72, giving a warning to make for the open sea, as there was no harbour or even shelter to be found. This move was fully justified, as during the ensuing night it blew a gale and a very high sea was running.

It is difficult to over-estimate the importance of the collections sent home by Lord Ranfurly, and the authorities of the British Museum are deeply indebted to him for the energy that he has displayed in procuring so many valuable specimens. At the same time I should like to take this opportunity of pointing out that there are still many New Zealand birds, skins of which would prove a welcome addition to the Collection, more especially specimens of the species to be found in the North Island and in Stewart Island.

I.—BIRDS FROM NEW ZEALAND, THE KERMADEC ISLANDS, AND THE ISLANDS TO THE SOUTH OF NEW ZEALAND.

1. *APTERYX AUSTRALIS* Shaw.

Apteryx australis Salvad. Cat. B. Brit. Mus. xxvii. p. 604 (1895).

a, b. Adult ♂ et ♀ immature. Dusky Bay, Otago District, South Island, January 1901 (*R. Henry*).

c, d. ♂ ♀ adult. Dusky Bay, 24th June, 1901.

e-g. ♂ ♀ immature. Dusky Bay.

h. Adult (in spirits). Dusky Bay.

Mr. Richard Henry, who is in charge of the "Bird Reserve" on Resolution Island, has supplied Lord Ranfurly with the following notes, in continuation of those already published in the 'Transactions of the New Zealand Institute,' vol. xxx. p. 288 (1897):—

"Though the greater part of the Roas' food consists of earthworms, they no doubt eat all sorts of insects, including many things they get out of water-holes, for I often see their tracks in muddy places, and captives are fond of dabbling in their water-tins. Last August two Roas were killed by my dog, which had managed to get rid of its muzzle. The stomachs of these birds were full of Miro-berries, the hard stones of which were completely digested, and had probably been eaten for the sake of the little kernels; the birds were quite fat. On Mt. Bradshaw, in Dec. 1898, I found two Roas in the open grass country far away from the forest, but this is the only instance of the kind that has come under my notice. One of these birds, which I had to wake up, looked at me more in surprise than fear, and when I put it down settled itself once more in its 'form' under a big tussock and went to sleep again; it evidently knew nothing of enemies of any sort.

"I put a pair of Roas on Parrot Island, and on the 15th November found the male hatching a fresh egg in the same nest which contained a tiny little chicken; so it is evident this bird sometimes breeds twice in the season.

"We did not see the mother at all. She was probably recovering after producing her great egg, which was 5 inches long and $3\frac{1}{4}$ inches in diameter, and weighed 18 ounces. The male probably weighed about 5 lbs. and the female about 7 lbs., for I have often weighed specimens out of curiosity.

"I think that the little chickens find their own food almost as soon as they can walk, and require only a little warmth from the parents.

"When I kept little ones they always foraged for themselves, and refused the large worms which the old ones liked.

“As a rule, one finds Roas in pairs in the same den, and they are sometimes accompanied by the last year’s young bird, which is nearly as big as themselves, but much darker in colour.

“When single birds are found they are always females if full-grown, and it would seem that the females are more numerous than the males. This was very noticeable in Dusky Sound, where males were always in demand to make up pairs.

“Their habits are curious: the males always stay at home to ‘nurse the baby,’ and do it well; while the females, which are both larger and more courageous, as well as more numerous, do most of the courting and fighting.

“The beak of the female is about 6 inches long and has the curve near the point, while that of the male is at least an inch shorter and has the curve near the middle.

“The habits and manners of the Kiwi (*Apteryx oweni*) are much like those of the Roas, but instead of frequenting the shady forests they live mostly in rocky and scrubby places.”

2. HYPOTENIDIA PHILIPPINENSIS (Linn.).

Hypotenidia philippinensis Sharpe, Cat. B. Brit. Mus. xxiii. p. 39 (1894).

a. Adult. ? South Island, New Zealand.

This Rail was sent home in a jar containing Shags from Bounty Island; the locality whence it was obtained was not indicated, but was probably South Island.

Like *H. macquariensis* Hutton, it has a patch of maroon feathers on the chest above the middle of the rust-coloured pectoral band, but in other respects it resembles typical *H. philippinensis*.

3. PORZANA AFFINIS (Gray).

Porzana affinis Sharpe, Cat. B. Brit. Mus. xxiii. p. 106 (1894).

a. ♂ adult. N. Canterbury, South Island, New Zealand, 23rd August, 1893.

4. *OCYDROMUS AUSTRALIS* (Sparrm.).

Ocydromus australis Sharpe, Cat. B. Brit. Mus. xxiii. p. 65 (1894).

a, b. Adult (in spirits) and immature. Geraldine Dist., Canterbury, South Island, N.Z., July 1901.

The immature specimen of the South-Island Wood-hen has the iris brown, and the bill brown, reddish on the culmen.

Mr. Richard Henry, of Resolution Island, in continuation of his notes on this species published in the 'Transactions of the New Zealand Institute,' vol. xxx. pp. 279-288 (1897), writes:—

"All the young Wekas are wanderers and trespassers for perhaps a year after they are turned away from home, and during this time are hunted and chased by every old Weka that sees them, but especially by their own fathers and mothers. Fortunately the youngsters are generally the best runners, so that they can get out of danger, but they are severely tested to prove their ability to obtain and defend a home before they settle down and get married. There appears to be no fighting for wives, as is the case with most other creatures. Females seem to be plentiful and fight among themselves; and the fight between the males is distinctly for the exclusive right to their feeding-grounds.

"I have now had six or seven years' experience of them, and those living near the house are tamer than ordinary fowls. One pair has been with me for five years, and during that time I never saw them ten yards outside of their boundary.

"The domains of two other pairs meet on a grass plot near the house, and on rare occasions the whole six of them may be seen within ten yards of each other, all on their own ground and respecting each other's rights.

"If the female dies or is taken by a hawk the male soon takes another mate, but if the male dies his place is taken by another male and his wife.

"The eggs take nearly a month to hatch, and for some time previously the birds are very busy about the nest, so that it may be 40 days before they bring the weakly little

chickens to the beach, and during all that time they go backwards and forwards over the ground till they make a regular beaten track by which they can easily be followed to the nest. Should I attempt to take the eggs, the sitting bird, whether it be male or female, will not leave the nest, and resists being pulled off with all its might. It pecks at

Text-fig. 33.



South-Island Wood-hen and Nest.

one's hand, but never hard enough to break the skin. Wekas sleep in some warm spot on the ground, and are consequently easily attacked and killed by stoats and weasels. I mention this, because even the most intelligent of our people attribute the destruction of the Wekas to the poisoned grain laid for

rabbits; and this, after the wholesale importation of ferrets, weasels, and stoats.

“Three young ones are the most I have seen in one family in Dusky Sound, but I once found four eggs in a nest at Te Anau Lake before the introduction of ferrets, and in the ‘grasshopper-days’ I have counted as many as six eggs in a nest on the Middle Dome near Lumsden.”

Three eggs from Dusky Sound are of the usual type, but one of them is somewhat longer than any of those in the British Museum Collection and measures 2.5 by 1.58 inches.

5. *Ocydromus brachypterus* (Lafr.).

Ocydromus brachypterus Sharpe, Cat. B. Brit. Mus. xxiii. p. 67 (1894).

a. Immature. Dusky Sound, Otago District, South Island.

b, c. Adult. South Island, Jan. 1901.

Two adult specimens of the Black Wood-hen have the plumage, especially of the upper parts, very deep black, each feather being faintly edged with dark rufous; an immature bird has the chest and wings spotted with rufous.

6. *Ocydromus scotti* Grant.

Ocydromus scotti Grant, Bull. B. O. C. xv. no. cxvi. p. 78 (1905).

Adult male (type of the species). Most nearly allied to *O. earli* G. R. Gray, but may be at once distinguished by its much smaller size, and by having the general colour of the plumage of the upper parts chestnut and black. Feathers of the top of the head, hind-neck, mantle, inner scapulars, and innermost secondaries black, widely margined on the sides with chestnut; primary and secondary quills, wing-coverts, and outer scapulars black, with bars or wedge-shaped marks of chestnut along the margins; marginal coverts uniform reddish-brown; lower back and rump uniform dark chestnut-brown; upper tail-coverts and tail-feathers black, the terminal half margined and the basal half barred with chestnut; a short whitish eyebrow-stripe extending from the lores to above the eye; chin, cheeks, and throat greyish;

fore-neck and chest chestnut, spotted with black (in this respect somewhat resembling immature specimens of *O. earli*); middle of the breast and belly greyish-brown, shading into dull greyish-rufous on the sides and flanks, some of the feathers of the former with the middle barred with chestnut and black; under tail-coverts chestnut barred with black. Upper mandible slaty-brown; lower mandible flesh-colour at the base, slate-colour towards the tip; legs red, darkish brown on the hinder aspect of the tarsus.

Total length in the flesh 18 inches; culmen 1·8; wing to the end of the secondaries 6·5; tail 4·6; tarsus 2·15.

Male (type). Port Pegasus, Stewart Island, New Zealand, 8th October, 1899. Weight 22 $\frac{3}{4}$ oz. Obtained by Commander R. F. Ayscough, R.N., H.M.S. 'Ringdove.'

"The specimen was shot when feeding along the beach (wooded), close to the water's edge."—R. F. A.

Adult female similar to the male.

Eight examples of *Ocydromus* procured by Dr. E. A. Wilson on the Macquarie Islands undoubtedly belong to this species, and are no doubt the descendants of birds imported there from Stewart Island.

Dr. Wilson has kindly furnished me with coloured sketches shewing the soft parts of the adult males and females procured in November on Macquarie Island:—Iris red; bill reddish towards the base, dusky along the culmen, and inclining to blackish at the tip; legs and feet reddish flesh-colour, tarsi brown on the hinder aspect.

7. APTENODYTES PATAGONICA Forster.

Aptenodytes pennanti Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 57 (1885).

Aptenodytes patagonica Grant, Cat. B. Brit. Mus. xxvi. p. 627 (1898).

a. Adult. New Zealand.

8. PYGOSCELIS PAPUA Forster.

Pygoscelis papua Grant, Cat. B. Brit. Mus. xxvi. p. 631 (1898).

a. Adult. Macquarie Island, 13th January, 1902.

This Penguin has the bill yellowish-orange, black toward the tip; feet orange-yellow (*F. W. Hutton*).

9. *CATARRHACTES CHRYSOCOME* FORSTER.

Eudyptes chrysocoma Filliol, Mém. Ac. France, Pass. Vénus, Miss. d'lle Campbell, iii. pt. ii. p. 58 (1885).

Catarrhactes chrysocome Grant, Cat. B. Brit. Mus. xxvi. p. 635 (1898).

Filliol records the Rock-hopper as numerous in small parties on Campbell Island from October onwards.

Capt. Hutton writes:—"It is common on the Antipodes, where, according to Capt. Bollons, it commences to breed at the end of September, forming its rookeries higher up than those of *C. sclateri*. It does not breed on either the Snares or Bounty Islands. The colour of the iris is red."

10. *CATARRHACTES PACHYRHYNCHUS* G. R. GRAY.

Catarrhactes pachyrhynchus Grant, Cat. B. Brit. Mus. xxvi. p. 638 (1898).

a. Adult. Snares, 7th January, 1902.

Capt. Hutton says:—"This Rock-hopper Penguin is abundant on the Snares, and, according to Capt. Bollons, it commences to breed in the first week in September. It was not met with on the Bounty Island."

Three eggs from Dusky Sound, Otago District, are of a pale bluish-white: two are of a broad-oval shape, and measure respectively 2·8 by 2·25 and 2·8 by 2·2 inches; the third is somewhat smaller and of a pointed oval shape, and measures 2·75 by 2·0 inches.

11. *CATARRHACTES SCLATERI* (BULLER).

Catarrhactes sclateri Grant, Cat. B. Brit. Mus. xxvi. p. 640 (1898).

Catarrhactes vittatus (Finsch); Grant, *l. c.* p. 638 [part.].

Captain Hutton writes:—"Sclater's Rock-hopper is very abundant on the Antipodes and Bounty Islands, and Capt. Bollons informs me it commences to breed there in the middle of September. The iris is brown. Young in

down have the chin and throat black, but the first feathers on these parts are pale grey, and in this stage of plumage the species was described as *Eudyptes vittata* Finsch." In a previous letter, dated the 8th November, 1900, he says:—"I find on again examining the types of *Eudyptes vittata*, with the help of your book (*cf.* Grant, Cat. B. Brit. Mus. xxvi. p. 638), that of the two examples in the Canterbury Museum one belongs to *C. pachyrhynchus* and one to *C. sclateri*."

12. CATARRHACTES SCHLEGELI Finsch.

Catarrhactes schlegeli Grant, Cat. B. Brit. Mus. xxvi. p. 643 (1898).

a. Adult (albino). Macquarie Island.

13. MEGADYPTES ANTIPODUM (Homb. & Jacq.).

Megadyptes antipodes Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 59 (1885).

Megadyptes antipodum Grant, Cat. B. Brit. Mus. xxvi. p. 644 (1898).

Recorded by Filhol from Campbell Island.

Capt. Hutton writes:—"According to Capt. Bollons, the Yellow-crowned Penguin breeds on Stewart, Auckland, and Campbell Islands early in September. It does not form rookeries, but associates in small groups of from ten to twelve. The iris is pale orange-yellow; the bill reddish-brown, white towards the base of the lower mandible; and the legs and feet are pale flesh-colour."

14. CYMODROMA MELANOGASTER (Gould).

Cymodroma melanogaster Salvin, Cat. B. Brit. Mus. xxv. p. 364 (1896).

Two eggs, believed to be of this species, procured on the North Island, New Zealand, were forwarded by Lord Ranfurly.

15. PUFFINUS CHLORORHYNCHUS Less.

Puffinus chlororhynchus Salvin, Cat. B. Brit. Mus. xxv. p. 372 (1896).

a, b. Adult. Kermadec Islands.

16. PUFFINUS ASSIMILIS Gould.

Puffinus assimilis Salvin, Cat. B. Brit. Mus. xxv. p. 384 (1896).

a, b. Adult. Kermadec Islands.

17. PUFFINUS GRISEUS (Gmel.).

Puffinus griseus Buller, B. New Zeal. ii. p. 232 (1888); Salvin, Cat. B. Brit. Mus. xxv. p. 386 (1896).

Puffinus tristis J. R. Forster; Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 53 (1885).

The Sooty Shearwater was found on all the islands. Captain Bollons reports that it commences to breed at the Snares in the middle of January, while at Stewart Island it does not begin before the end of January (*F. W. Hutton*).

18. ŒSTRELATA LESSONI Garnot.

Œstrelata lessoni Buller, B. New Zeal. ii. p. 219 (1888); Salvin, Cat. B. Brit. Mus. xxv. p. 401 (1895).

a. Adult. Antipodes I., 13th January, 1901.

Iris black; bill black; feet and legs pale flesh, terminal half of outside web black.

The White-headed Petrel breeds in holes on the Antipodes, fresh eggs being found in the middle of January (*F. W. Hutton*).

19. ŒSTRELATA MACROPTERA (Smith).

Œstrelata macroptera Salvin, Cat. B. Brit. Mus. xxv. p. 399 (1896).

a. Adult. Kermadec Islands.

20. ŒSTRELATA CERVICALIS Salvin.

Œstrelata cervicalis Salvin, Cat. B. Brit. Mus. xxv. p. 411, pl. vi. (1896).

a-e. Adult. Kermadec Islands.

Only one example of Salvin's Capped Petrel existed in the British Museum Collection, and the five adult specimens sent home by Lord Ranfurly may be regarded as an important addition.

Though very closely allied to *Œ. externa* Salvin, the present species appears to differ constantly in having the

under wing-coverts along the edge of the wing mostly black. Salvin has stated that the upper parts in *Æ. cervicalis* are "much darker" than in *Æ. externa*; but our present series shews that this is not really the case, as some birds from the Kermadecs have the upper parts perfectly similarly coloured to the type from Masafuera Island, on the coast of Chile.

21. *ÆSTRELATA NEGLECTA* (Schl.).

Æstrelata neglecta Salvin, Cat. B. Brit. Mus. xxv. p. 412 (1896).

a-d. Adult et immature. Kermadec Islands.

The colour of the under parts of three adult birds varies considerably: one has the throat, neck, &c. sooty; the second specimen has these parts brownish-grey; while in the third they are whitish, tinged with grey. The young bird is much lighter in colour than the adult, and has the under parts mostly white, the feathers of the cheeks and throat being edged with dusky, while some of the breast- and flank-feathers are similarly fringed with dusky.

In all phases of plumage, even in the most dusky, this species may be distinguished from the sooty-coloured *Æ. macroptera* by having the shafts of the primary-quills mostly white, while in the latter they are dusky to the base; the bill, moreover, in the present species is much smaller, the nail especially being less developed than in *Æ. macroptera*.

22. *ÆSTRELATA NIGRIPENNIS* Rothsch.

Æstrelata nigripennis Salvin, Cat. B. Brit. Mus. xxv. p. 409 (1896).

a-d. Adult. Kermadec Islands.

e. ♂ adult. Curtis I., Kermadec Islands, 5th November, 1901.

The Black-winged Petrel was originally described by Mr. Rothschild from specimens procured at the Kermadec Islands, and the present examples are similar to two of the typical specimens presented by that gentleman to the British Museum.

23. *OSSIFRAGA GIGANTEA* (Gmel.).

Ossifraga gigantea Filhol, Mém. Ae. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 51 (1885); Buller, B. New Zeal. ii. p. 225 (1888); Salvin, Cat. B. Brit. Mus. xxv. p. 422 (1896).

a. Adult [white phase]. Macquarie Island, 13th January, 1902.

Lord Ranfurly, writing of the Giant Petrel, says:—"White 'Nellys' were seen on more than one occasion at the Snares, on Campbell Island, and about six at Macquarie Island. The albino pair shot were both alike in plumage, each having the same amount of slaty-black feathers." The other specimen was forwarded to the Hon. Walter Rothschild.

Captain Bollons states that the birds commence to breed at the Antipodes early in September. The plumage of the young is similar to that of the adult (*J. W. Hutton*).

24. *DAPTION CAPENSIS* (Linn.).

Procellaria capensis Filhol, Mém. Ae. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 54 (1885).

Daption capensis Buller, B. New Zeal. ii. p. 215 (1888); Salvin, Cat. B. Brit. Mus. xxv. p. 428 (1896).

Captain Hutton writes:—"The 'Cape Pigeon' was very abundant in January at the Snares and Antipodes. No doubt it breeds at both places, but its nest has not been found. A few were seen at the Auckland and Campbell Islands, but none were observed at sea in January."

25. *PRION VITTATUS* (Gmel.).

Prion vittatus Filhol, Mém. Ae. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 55 (1885); Buller, B. New Zeal. ii. p. 212 (1888); Salvin, Cat. B. Brit. Mus. xxv. p. 432 (1896).

Recorded by Filhol from the neighbourhood of Campbell Island.

26. *PRION BANKSI* Gould.

Prion banksi Buller, B. New Zeal. ii. p. 211 (1888); Salvin, Cat. B. Brit. Mus. xxv. p. 434 (1896).

a. ♂ adult. Adam I., Auckland Is., 7th January, 1901.

Banks's Petrel has the iris dark brown, the bill blue, the ridge of culmen and nostril black, the legs and feet blue. It breeds on the Auckland Islands (*F. W. Hutton*).

27. *PRION DESOLATUS* (Gmel.).

Prion desolatus Salvin, Cat. B. Brit. Mus. xxv. p. 434 (1896).

Prion turtur (Kuhl); Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 55 (1885); Buller, B. New Zeal. ii. p. 209 (1888).

The Dove-Petrel breeds on Antipodes Island (*F. W. Hutton*).

28. *DIOMEDEA EXULANS* Linn.

Diomedea exulans Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 44 (1885); Buller, B. New Zeal. ii. p. 189, pl. (upp. fig.) (1888); Salvin, Cat. B. Brit. Mus. xxv. p. 441 (1896).

Capt. F. W. Hutton writes:—"Capt. Bollons informs me that the Wandering Albatros commences to breed on Adam Island, Auckland Group, in the first week in January; while on the Antipodes the breeding-season does not begin until the middle of January. The eyelids in the adult are pale purple. The young of the second year have the plumage chocolate-brown (except the forehead, sides of the head, and upper part of the throat, which are white). In the third year the plumage gradually becomes white—first on the abdomen, next on the back, then on the neck, and, lastly, on the top of the head. Possibly the Antipodes birds never become white on the crown, as they are found breeding with the top of the head still covered with dark feathers."

29. *DIOMEDEA REGIA* Buller.

Diomedea exulans Buller (nec Linn.), B. New Zeal. ii. p. 189, pl. (lower fig.) (1888).

Diomedea regia Buller, Trans. New Zeal. Inst. xxiii. p. 230 (1891); Salvin, Cat. B. Brit. Mus. xxv. p. 443 (1896).

According to Capt. Hutton, "the Royal Albatros breeds on Campbell Island and on the east end of Adam Island, Auckland Group, but is no longer found on Enderby Island.

Capt. Bollons stated that the species commenced to breed in the middle of November, and during Lord Ranfurly's visit on the 10th of January eggs were found in an advanced state of incubation."

The British Museum has recently received an immature example of this species procured on Campbell Island, 20th October, by Commander R. F. Ayscough, R.N., H.M.S. 'Ringdove.'

30. *DIOMEDEA MELANOPHRYS* Boie.

Diomedea melanophrys Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 51 (1885); Buller, B. New Zeal. ii. p. 198 (1888); Salvin, Cat. B. Brit. Mus. xxv. p. 447 (1896).

Captain Hutton writes:—"The Black-browed Albatros is very abundant on Campbell Island, where, according to Capt. Bollons, it commences to breed in the second week of September. The young appear to resemble the old birds."

31. *DIOMEDEA BULLERI* Roths.

Diomedea bulleri Salvin, Cat. B. Brit. Mus. xxv. p. 448 (1896).

According to Capt. F. W. Hutton, this species, which he alludes to as *Thalassogeron culminatus* (Gould), breeds on the Snarcs, the nesting-season commencing at the latter end of January. It is a common bird in the New Zealand seas. In the young the plumage of the whole head and neck is brown.

32. *DIOMEDEA CAUTA* Gould.

Thalassogeron cautus Salvin, Cat. B. Brit. Mus. xxv. p. 449 (1896).

Thalassogeron layardi Salvin, Cat. B. Brit. Mus. xxv. p. 450 (1896).

Captain Hutton remarks:—"The Shy Albatros nests on the Bounty Islands, the breeding-season commencing, according to Capt. Bollons, at the latter end of August.

"In the young the sides of the head and neck are grey (we saw very few with pure white head and neck); the latericorn of the bill is bluish-yellow, not dirty yellow as in

the adult. The species is easily recognised by its stout bill, of which the least depth measures 1·2 inch, and also by the black line at the base.

“The nests are solid structures made of guano.”

The only example of this species in the British Museum may be at once distinguished by having the sides of the neck and the greater part of the basal two-thirds of the inner webs of the primaries white; these additional characters do not appear to have been recorded when distinguishing this species from *D. salvini*.

Mr. Walter Rothschild has kindly lent me for examination three examples of the so-called Layard's Albatros procured in New Zealand waters. After carefully comparing these with the types of *Diomedea cauta* Gould, and *Thalassogeron layardi* Salvin, we have no doubt whatever that the latter name is synonymous with the former, the type of *D. cauta* being merely an older and slightly larger bird.

We have also studied the description and figure of *Diomedea platei* Reichenow, from Chile (*cf.* J. f. O. 1899, p. 118, and 1900, p. 244, fig.), and have satisfied ourselves that it is founded on an immature specimen of *D. cauta*.

33. DIOMEDEA SALVINI (Rothsch.).

Diomedea cauta Buller, B. New Zeal. ii. p. 203 (1888).

Thalassogeron salvini Salvin, Cat. B. Brit. Mus. xxv. p. 450 (1896).

Captain Hutton writes:—“There is a specimen of Salvin's Albatros in the Christchurch Museum which, together with an egg, was procured on the Bounty Islands.

“Captain Bollons assures me that he has never seen any species of ‘Molly-mawks’ on the Antipodes Islands, and it is now certain that none breed there, but that both *D. cauta* and *D. salvini* breed on the Bounty Islands.

“The bill in the present species is less stout than in *D. cauta*, its least depth measuring 1 inch, the membrane separating the culminicorn from the latericorn is very narrow, and there is no sign in the dried specimen of a black line at the base of the bill.”

The present species differs from *D. cauta* in having the sides of the neck grey and the inner webs of the primaries brown, characters which appear to be of importance, but have not hitherto been noticed.

34. *DIOMEDEA CHLORORHYNCHA* Gmel.

Diomedea chlororhyncha Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Ile Campbell, iii. pt. ii. p. 51 (1885); Buller, B. New Zeal. ii. p. 202 (1888).

Thalassogeron chlororhynchus Salvin, Cat. B. Brit. Mus. xxv. p. 451 (1896).

According to Filhol, this species breeds on Campbell Island.

Captain Hutton writes:—"There is a specimen in the Christchurch Museum from the coast of New Zealand."

35. *PHEBETRIA CORNICOIDES*.

Diomedea fuliginosa var. *cornicoides* Hutton, Ibis, 1867, pp. 186, 192.

Diomedea fuliginosa Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Ile Campbell, iii. pt. ii. p. 50 (1885).

This species appears to me to be quite distinct from *P. fuliginosa*.

Captain Hutton writes:—"According to Capt. Bollons, the Sooty Albatros breeds on the cliffs of the Antipodes, Auckland, and Campbell Islands, commencing at the latter end of October. I think that *P. cornicoides* should be recognised as a distinct form."

36. *GARRODIA NEREIS* Gould.

Garrodia nereis Salvin, Cat. B. Brit. Mus. xxv. p. 361 (1895).

a. ♀ adult. Adam I., Auckland Is., 7th January, 1901.

The Grey-backed Storm-Petrel has the iris black and the bill and feet jet-black (*F. W. Hutton*).

37. *GYGIS CANDIDA* (Gmel.).

Gygis candida Saunders, Cat. B. Brit. Mus. xxv. p. 149 (1896).

a-c. Adult. Kermadec Is.

38. PROCELSTERNA CINEREA (Gould).

Procelsterna cinerea Saunders, Cat. B. Brit. Mus. xxv. p. 135 (1896).

a-c. Adult. Dusky Sound, Otago District, South Island, New Zealand, June 1901.

The Little Noddy has only once before been obtained in New Zealand [*cf.* Buller, B. New Zeal. ii. p. 78 (1888)].

39. STERNA VITTATA Gmel.

Sterna vittata Saunders, Cat. B. Brit. Mus. xxv. p. 51 (1896).

a. Adult *. Bounty Is., 15th January, 1901.

b, c. ♂ ♀ adult. Antipodes I., 14th January, 1901.

d, e. ♀ adult et ♂ immature. Campbell Is., 10th January, 1901.

Iris black; bill crimson; legs reddish-orange. In young birds the bill is black, reddish at the base of the mandibles, and the legs are blackish-red (*F. W. Hutton*).

This Tern appears to have been common at the above-mentioned islands.

40. STERNA FULIGINOSA Gmel.

Sterna fuliginosa Saunders, Cat. B. Brit. Mus. xxv. p. 106 (1896).

a-d. Kermadec Islands.

Two eggs of the Sooty Tern sent from Sunday Island, Kermadec Islands, are of the usual type and similar to the specimens described in the British Museum Catalogue.

41. LARUS SCOPULINUS Gray.

Larus scopulinus Buller, B. New Zeal. ii. pp. 55, 62 (1888); Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 40 (1885); Saunders, Cat. B. Brit. Mus. xxv. p. 238 (1896); Sharpe, Rep. Birds 'Southern Cross' Exped. p. 165 (Campbell I.), 1902.

Captain F. W. Hutton reports the Mackerel-Gull from

* It had not previously been recorded from the Bounty Islands; unfortunately the above-mentioned specimen, being in a bad state, could not be preserved.

the Auckland Islands; it was not met with on the Bounty or Antipodes Islands.

42. *LARUS DOMINICANUS* Licht.

Larus dominicanus Buller, B. New Zeal. ii. p. 47 (1888); Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 38 (1885).

Captain F. W. Hutton says:—"The Southern Black-backed Gull was common on all the islands."

43. *MEGALESTRIS ANTARCTICA* (Lesson).

Megalestris antarctica Saunders, Cat. B. Brit. Mus. xxv. p. 319 (1895).

Stercorarius antarcticus Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 41 (1885); Buller, B. New Zeal. ii. p. 63 (1888).

Captain Hutton writes:—"The Southern Skua is common on all the islands. Captain Bollons states that it commences to breed in September."

44. *ARENARIA INTERPRES* (Linn.).

Arenaria interpres Sharpe, Cat. B. Brit. Mus. xxiv. p. 92 (1896).

a, b. ♀ adult. Lake Ellesmere, Canterbury, New Zealand, 10th February, 1902.

The Turnstone has the legs yellowish-pink (*F. W. Hutton*).

45. *HÆMATOPUS UNICOLOR* Wagler.

Hematopus unicolor Sharpe, Cat. B. Brit. Mus. xxiv. p. 88 (1896).

a. ♂ adult. Port Pegasus, Stewart I., 1st January, 1901.

The Black Oyster-catcher has the iris yellow, the naked skin round the eye and bill orange, the legs and feet brownish-grey (*F. W. Hutton*).

46. *CHARADRIUS DOMINICUS* P. L. S. Müll.

Charadrius dominicus Sharpe, Cat. B. Brit. Mus. xxiv. p. 195 (1896).

a. Immature. Lake Ellesmere, Canterbury, 1st February, 1902.

47. HIMANTOPUS PICATUS Ellman.

Himantopus picatus Sharpe, Cat. B. Brit. Mus. xxiv. p. 319 (1896).

a, b. Adult et vix adult. New Zealand.

These birds were sent home in a jar of formaline, along with Cormorants, from the Bounty Islands. They bore no particulars respecting the locality, &c., where they were obtained, but were probably from South Island.

48. LIMOSA NOVÆ ZEALANDIÆ G. R. Gray.

Limosa novæ zealandiæ Buller, B. New Zeal. ii. pts. viii. & ix. p. 40, pl. iv. (1888); Sharpe, Cat. B. Brit. Mus. xxiv. p. 377 (1896).

a. Adult. Lake Ellesmere, Canterbury, New Zealand, 27th January, 1902.

49. LIMOSA HUDSONICA (Lath.).

Limosa hudsonica Sharpe, Cat. B. Brit. Mus. xxiv. p. 388 (1896).

a. ♀ adult. Lake Ellesmere, Canterbury, New Zealand, 4th March, 1902.

Iris hazel; bill brownish-black, base of the mandible pinkish; legs and feet brownish-black (*F. W. Hutton*).

This example of the Hudsonian Godwit was forwarded to the British Museum, at Lord Ranfurly's request, by Captain Hutton. It is the first example of this species that has been recorded from New Zealand, its range being restricted to the New World, where it extends from Arctic America to the Falkland Islands.

50. TRINGA CANUTUS Linn.

Tringa canutus Sharpe, Cat. B. Brit. Mus. xxiv. p. 593 (1896).

a, b. Adult. Lake Ellesmere, Canterbury, New Zealand, 1st February, 1902.

The Knot is an occasional visitor to New Zealand, and the specimens procured are generally in winter plumage.

51. TRINGA SUBARQUATA (Güldenst.).

Ancylochilus subarquatus Sharpe, Cat. B. Brit. Mus. xxiv. p. 586 (1896).

a. Adult ♀. Lake Te Anau, Otago, South Island, New Zealand, March 1903.

b. Immature ♂. Lake Ellesmere, Canterbury, South Island, New Zealand, 3rd February, 1902.

The Curlew-Sandpiper appears to be new to the avifauna of New Zealand. Specimen *b* was at first identified by Captain Hutton as a Pectoral Sandpiper (*Heteropygia acuminata*), and subsequently referred by him to the Red-throated Stint (*Limonites ruficollis*).

52. GALLINAGO AUCKLANDICA Gray.

Gallinago aucklandica Buller, B. New Zeal. ii. pt. viii. p. 32 (1888).

a, b. ♂ adult. Adam I., Auckland Is., 7th & 8th January, 1901.

c. ♂ adult. Antipodes Is. (*J. P. Rolleston*), 15th July, 1901.

d. ♀ adult. „ „ 28th Feb., 1899.

The Auckland-Island Snipe has the iris hazel, the bill brown, and the legs and feet brownish- or greenish-yellow. It was not common on Adam Island (*F. W. Hutton*).

53. GALLINAGO HUEGELI Tristram.

Gallinago huegeli Tristram, Bull. B. O. C. i. no. ix. p. xlvi (1893) [Snares].

a, b. ♂ ♀ adult. Snares, 2nd January, 1901.

c. Snares, 7th January, 1902.

The Snares-Island Snipe has the iris dark brown and the legs and feet greyish-brown.

Capt. F. W. Hutton, in his notes, speaks of having met with this species on "Snares and Antipodes Islands. It was rare on Antipodes, and as we did not see this species on the Auckland Islands I think the locality is a mistake."

Capt. Hutton's notes as regards Antipodes and Auckland Islands evidently refer to *G. aucklandica*.

54. ANAS SUPERCILIOSA Gmel.

Anas superciliosa Buller, B. New Zeal. ii. p. 251 (1888); Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 38 (1885).

a. ♂ adult. Enderby I., Auckland Is., 3rd January, 1901.

The Grey Duck has the iris hazel, the legs flesh-colour, and the webs dusky. It is not uncommon on the Auckland Islands, and also occurs on Campbell Island, though we did not meet with it there (*F. W. Hutton*).

55. *NESONETTA AUCKLANDICA* G. R. Gray.

Nesonetta aucklandica Buller, B. New Zeal. ii. pts. xii. & xiii. p. 263, pl. v. (lower fig.) (1888); Salvad. Cat. B. Brit. Mus. xxvii. p. 289 (1895).

a-c. ♂ adult. Enderby I., Auckland Is., 3rd January, 1901.

The Auckland-Island Duck has the iris dark brown, the bill slaty-grey, and the legs and feet yellowish-brown, with the webs darker. It is not uncommon on the Auckland Islands, but is local. When approached, it makes no attempt to fly (*F. W. Hutton*).

56. *HYMENOLEMUS MALACORHYNCHUS* (Gmel.).

Hymenolæmus malacorhynchus Buller, B. New Zeal. ii. pts. xii. & xiii. p. 276, pl. v. (1888); Salvad. Cat. B. Brit. Mus. xxvii. p. 455 (1895).

a, b. Adult et juv. Geraldine Dist., Canterbury, South Island, N.Z., October 1901.

c, d. Adult et juv. (in spirits). Geraldine Dist., Canterbury, South Island, N.Z., October 1901.

These examples of the Soft-billed Duck were procured for Lord Ranfurly by the Hon. L. Walker, M.L.C.

57. *MERGANSER AUSTRALIS* (Hombr. & Jacq.).

Mergus australis Buller, B. New Zeal. ii. p. 279 (1888).

Merganser australis Salvad. Cat. B. Brit. Mus. xxvii. p. 485 (1895).

a, b. ♂ ♀ adult. McLelland's Inlet, Auckland Is., 5th January, 1901.

The pair were shot together; only one other pair was seen besides those procured.

c. ♀ adult. Carnley Harbour, Auckland Is., 9th July, 1901 (*Commander J. P. Rolleston*).

d-f. Skeletons of specimen *c* and of an adult pair in the possession of Lord Raufurly.

Iris dark brown; culmen and tip of lower mandible black, cutting-edge of upper mandible and rest of lower mandible yellowish-orange; legs and feet orange; webs, joints, and soles dusky.

We found the Southern Merganser very rare on the Auckland Islands; it flies well (*F. W. Hutton*).

In addition to the above, the British Museum has recently received an adult male of this bird from Auckland Islands, presented by Licut. Kennett Dixon, R.N.

We have examined altogether five birds in the flesh, and the sex of these has in each case been easily determined. The males may be distinguished by their larger size, longer bill and crest. It is quite a mistake to suppose that the female has no crest and has the top of the head and neck greyer in colour than in the male (*cf.* Buller, *op. cit.* p. 379).

The comparative measurements of six specimens are as follows:—

	Culmen. in.	Crest. in.	Wing. in.
Adult male	2·8-2·9	2·2	7·3-7·6
Adult female	2·5	1·8	7·0

58. PHALACROCORAX CARBO (Linn.).

Phalacrocorax carbo Grant, Cat. B. Brit. Mus. xxvi. p. 340 (1898).

The Common Cormorant was not procured, but, referring to the species, Mr. Richard Henry says:—"The big Black Cormorant used to have a breeding-place on the west bank of the Waiau River, halfway between Manipouri and Te Anau Lakes. The nests, like those on Anchor Island, were built of sticks and placed in forks of trees leaning over the water, but in this instance they were much higher and situated over a rapid in the most inaccessible part of that mad river. Unlike *P. stewarti*, this species has a regular breeding-season; and in this rookery, the only one of the kind I have seen, about 15 out of 30 nests were occupied in

November 1883. Some of the old birds shot and examined contained half-digested eels, but no trout."

59. PHALACROCORAX PUNCTATUS (Sparrrn.).

Phalacrocorax punctatus Grant, Cat. B. Brit. Mus. xxvi. p. 354 (1898).

a-c. ♂ ♀ immature. Taumaki I., off Hokitika, west coast of South Island, N.Z., 25th February, 1902.

d-i. ♂ adult et immature. Taumaki I., 2nd April, 1901.

k. Immature. Snares Is., 7th January, 1902.

l, m. Adult. Macquarie Is., 14th January, 1902.

The Spotted Shag has the iris green, the skin round the eye blue, bright blue-green on the lores and sides of the face, the gular pouch dark blue, the bill brownish-yellow tinged with pinkish on the lower mandible, the tarsi and feet orange-yellow (*F. W. Hutton*).

60. PHALACROCORAX FEATHERSTONI Buller.

Phalacrocorax featherstoni Grant, Cat. B. Brit. Mus. xxvi. p. 356 (1898).

The Chatham-Island Shag was not procured.

61. PHALACROCORAX CHALCONOTUS (G. R. Gray).

Phalacrocorax chalconotus Grant, Cat. B. Brit. Mus. xxvi. p. 369 (1898).

a, b. ♀ adult. Stewart I., New Zealand, 17th January, 1901.

Gray's Shag has the iris brown, the ring of naked skin round eye blue, the lores and sides of face covered with short sooty-black plumes, the bill pale brown, the tarsi and feet flesh-colour (orange-yellow in dry skins) (*F. W. Hutton*).

Mr. Richard Henry, writing from Pigeon Island, Dusky Bay, states that "this species is scarce, and thinly distributed along the coast-line, where perhaps one may be met with in about every twenty miles. A large rookery of this species is situated on the east side of Te Anau, within a mile of the head of the Lake. There used to be two or three hundred birds there in a season, but many have recently been shot

and they may be scarce there now. They live on 'Bull-heads,' and I do not ever remember finding anything else in them.'

62. *PHALACROCORAX SULCIROSTRIS* (Brandt).

Graculus sulcirostris Finsch, J. f. O. 1874, pp. 174, 214 [New Zealand?].

Phalacrocorax sulcirostris Grant, Cat. B. Brit. Mus. xxvi. p. 376 (1898).

This species is doubtfully recorded by Dr. Finsch from North Island, but it was not procured by Lord Ranfurly, and can only be a straggler to the New Zealand coasts.

63. *PHALACROCORAX TRAVERSI* Rothschild.

Phalacrocorax traversi Rothschild, Bull. B. O. C. .viii. no. lviii. p. xxi (1898).

a-d. Adult, immature, et pullus. Macquarie Is. 14th January, 1902.

e. Immature. Port Ross, Auckland Is., 4th July, 1901 (*Commander J. P. Rolleston*).

f. Adult. Carnley Harbour, Auckland Is., 9th July, 1901 (*J. P. R.*).

"An adult specimen of the Macquarie-Island Shag in breeding-plumage has the iris dark brown, the naked skin round the eye purple, the nasal caruncles orange, the gular pouch orange-yellow spotted with black, the bill greyish-black, paler towards the tip, the tarsi and toes greyish-brown, and the webs dark brown" (*Ranfurly*).

Commander J. P. Rolleston records the soft parts of the adult bird killed at Carnley Harbour as follows:—"Iris brown; upper mandible black, lower red; tarsi and feet light red."

An immature bird has "the iris brown, the skin round the eye and the bill grey, and the legs and feet grey, tinged with yellow" (*Ranfurly*).

This species, which is new to the British Museum Collection, is very closely allied to *P. verrucosus* from Kerguelen Land, but may be distinguished by its larger size and by possessing a well-marked alar bar. It is very interesting to find this

species in New Zealand waters, representing as it does the South-American type, with the feathers on the chin not extending beyond a vertical line drawn from the anterior margin of the eye.

64. *PHALACROCORAX CARUNCULATUS* (Gmel.).

Phalacrocorax carunculatus Grant, Cat. B. Brit. Mus. xxvi. p. 384, fig. 3 (1898).

a, b. Adult. White Rocks, Cook's Straits, New Zealand, 14th July, 1902.

c. ♀ adult. Brothers I., 29th April, 1901.

The adult female has the iris sea-green, the ring of skin round the eye brilliant peacock-blue, the wattles bright orange, the bill brown, and the feet yellowish-green.

The Cook-Straits Cormorant, the largest of the white-breasted forms, is new to the British Museum Collection, and is certainly one of the most valuable of the birds presented by Lord Ranfurly.

The female from the Brothers I., the only specimen in which the sex has been ascertained, shows no trace of white on the outer scapulars, and only one feather on the lower back is white.

My description of this species in the 'Catalogue of Birds,' taken from examples in Mr. Rothschild's Museum killed on 4th February, must be slightly modified. These latter showed no trace of a crest, but in the female procured on the 29th April, mentioned above, there is a well-developed crest on the middle of the crown about 1·7 inch in length.

Two eggs of this species taken on the White Rocks on the 14th July, 1902, are of the ordinary Cormorant-type, and measure respectively 2·7 by 1·68 and 2·53 by 1·7 inches.

Regarding the difficulties in procuring specimens of this extremely local species, Lord Ranfurly writes on the 20th of December, 1901:—"I shall try and get you some more specimens of the Cook-Straits Cormorant. I have been to the *only* rock on which they are found four times, but the sea has always been too rough." On the 26th July, 1902, he writes again:—"This Shag is only to be found on one rock

called White Rock, about $1\frac{1}{2}$ miles from the mainland. The eggs were taken on 14th July, 1902, and there were besides *fresh* eggs some young birds probably a fortnight old. These birds are rapidly disappearing, and the colony probably does not number more than 40 adults."

65. PHALACROCORAX ONSLOWI Forbes.

Phalacrocorax onslowi Grant, Cat. B. Brit. Mus. xxvi. p. 385 (1898).

Lord Onslow's Shag is not represented in the present collection.

66. PHALACROCORAX STEWARTI Grant.

Phalacrocorax stewarti Grant, Cat. B. Brit. Mus. xxvi. p. 385, pl. v. A (1898).

a. ♀ adult. Stewart Island, New Zealand, 17th January, 1901.

b. Adult. New Zealand. Presented by Donald Mackintosh, Esq.

In the Stewart-Island Shag the "iris is greyish-brown, the ring of naked skin round eye blue, the gular pouch and bill pale brown, and the tarsi and feet flesh-colour" (*F. W. H.*).

Writing from Pigeon Island, Dusky Bay, Mr. Richard Henry says:—"This species is very sedentary in its habits, seldom wandering far from the place where it was bred; it is much tamer than *P. chalconotus* and less active in its habits, allowing a canoe to pass within a few yards. Its principal breeding-place is on a freshwater lagoon on Anchor Island. It appears to have no fixed breeding-season, as eggs and young are to be found at all seasons of the year. Twice I have been near enough to watch the proceedings of this species under water, and on both occasions when the birds started their dive they used both their feet at once, which looked very awkward, for it made them go along in jerks. They hunt very slowly among stones and weeds until they start a fish, and then use their wings and shoot swiftly through the water, probably using their wings and feet alternately, but the wings are only slightly opened, and they travel so fast that I could not be sure. Their spurt only

lasted for a little while, then they came to the surface, having often caught the fish. One of the Shags I was watching from a little cliff caught five parrot-fish in about half an hour; they were probably each two or three ounces in weight and evidently sufficient for the time."

67. PHALACROCORAX RANFURLYI Grant.

Phalacrocorax ranfurlyi Grant, Bull. B. O. C. xi. no. lxxx. p. 66 (1901).

Adult male. Most nearly allied to *P. stewarti*, but at once distinguished by the absence of the wide white band across the rump (only suggested in the type specimen by one white feather on each side), and by the very different colour of the naked skin on the face. "Iris pale brown, naked skin round the eye and gular pouch bright orange, legs and feet flesh-colour" (*F. W. Hutton*).

Adult males and females collected by Commander J. P. Rolleston, of H.M.S. 'Archer,' have the soft parts carefully recorded as follows:—"Iris brown, ring round eye purple; lores scarlet with black spots (? the minute black plumes); gular pouch scarlet, merging into orange near the bill; legs and feet light flesh-colour."

Total length about 27 inches; culmen from feathers on forehead to tip 2·4; wing 11·2; tail 5·3; tarsus 2·6; outermost toe and claw 4·4.

A young bird (15th January, 1903) in first plumage has the fore-neck sooty-brown, with a white patch on the throat, and in this stage of plumage somewhat resembles the immature of *P. campbelli*.

A rather more advanced bird (15th January, 1901) has the fore-neck white, mottled with brown.

Eyes brown, lores and skin round eye reddish-brown, gular pouch crimson, legs and feet flesh-colour (*J. P. Rolleston*).

The young in first plumage has the iris pale brown, skin round eye and lores brown, gular pouch grey, and the bill and feet brownish-flesh-colour (*F. W. H. & J. P. R.*).

An older bird (16th July, 1901) has the fore-neck white,

with a few dark feathers towards the base, and the white wing-stripes of the adult are well defined.

a, b. ♂ adult, ♂ immature. Bounty Islands, 15th January, 1901. (*Type of the species.*)

c-g. ♂ ♀ adult et ♂ juv. Bounty Islands, 15th January, 1903 (*Commander J. P. Rolleston.*)

h, i. ♀ immature. Bounty Islands, 16th July, 1901 (*J. P. R.*).

k. Adult. Bounty Islands. Presented by Lieut. Kennett Dixon, R.N.

“The Bounty-Island Shag is by no means abundant.

“We saw no birds with a white patch on the back, though the adult specimen shot (the type of *P. ranfurlyi*) has indications of one.

“It is remarkable that there are no Shags on either the Snares or Antipodes Islands.” (*F. W. Hutton.*)

In January 1902 a second attempt was made to secure additional examples of this Cormorant, but it was found impossible to land on Bounty Island, as the sea was breaking right over it, and no boat could land with safety. Subsequently, however, in January 1903, Commander J. R. Rolleston, H.M.S. ‘Archer,’ visited the islands and procured further specimens, some of which reached New Zealand alive, but were subsequently killed and forwarded to England with other birds in formaline.

68. PHALACROCORAX COLENZOI Buller.

Phalacrocorax colensoi Grant, Cat. B. Brit. Mus. xxvi. p. 386 (1898).

a. Adult. Enderby I., Auckland Is., 3rd January, 1901.

b-d. Adult et immature. Enderby I., Auckland Is., 8th January, 1902.

“The Auckland-Island Shag has the iris dark brown, the ring round the eye purple; the bill brownish-black, orange-yellow at the gape; the gular pouch crimson; the tarsi and toes flesh-colour, and the webs dusky brown.

“We found it very abundant in the Auckland Islands.” (*F. W. Hutton.*)

Specimens *b-d* are not quite typical and appear to be more or less intermediate between *P. colensoi* and *P. campbelli*. The white fore-neck, especially in specimen "*b*," is largely interrupted with black, the lower fore-neck being in fact black, with an interrupted white line down the middle; in specimens "*c*" and "*d*" the white line, though somewhat narrow and irregular, is continuous.

In the British Museum Collection there is a fully adult male specimen which probably came from Auckland Islands, presented by Mr. L. W. Milles. This bird resembles specimen "*c*" as regards the white on the throat, but the wings are greener and entirely devoid of an alar bar.

Typical examples of *P. campbelli* having been obtained at the Auckland Islands, it seems possible that the above-mentioned specimens may be the result of interbreeding, but the characters which serve to distinguish the various insular forms are not always quite constant and are perhaps not yet thoroughly established.

69. PHALACROCORAX CAMPBELLI Filhol.

Phalacrocorax campbelli Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 55 (1885); Grant, Cat. B. Brit. Mus. xxvi. p. 387 (1898).

a-c. ♂ adult et immature. Campbell I., 10th January, 1901.

d, e. ♀ adult et immature. Enderby I., Auckland Is., 3rd January, 1901.

f. ♀ adult. Carnley Harbour, Auckland Is., 7th January, 1901.

The adult Campbell-Island Shag has the iris dark hazel *, the ring round the eye purple, the naked skin of the face black with orange spots, the gular pouch reddish-orange, the bill brown, the legs and feet pinkish-flesh-colour, and the soles black.

In the young, the iris is brown, the skin round the eye black, the bill and pouch flesh-colour, and the legs brownish-flesh.

* Filhol says the eyes are green and the pouch and feet of a fine red colour.

“This is the only species of Shag met with on Campbell Island, where it is common. We also obtained a fine specimen of this species in adult plumage in Carnley Harbour, Auckland Is.” (*F. W. Hutton.*)

70. *PHALACROCORAX VARIUS* (Gmel.).

Phalacrocorax varius Grant, Cat. B. Brit. Mus. xxvi. p. 394 (1898).

The Pied Shag was not included among the species sent home.

71. *PHALACROCORAX BREVIROSTRIS* Gould.

Phalacrocorax brevirostris Grant, Cat. B. Brit. Mus. xxvi. p. 400 (1898).

The White-throated Shag was not procured by Lord Ranfurly, but among the notes forwarded by Mr. Richard Henry we find the following reference to this species:—
“Along the coasts of Dusky Sound one or two pairs of this species may be met with, and a small rookery of about a dozen pairs used to exist on the east side of Te Anau about a mile from the head of the Lake.”

72. *PHALACROCORAX MELANOLEUCUS* (Vicill.).

Phalacrocorax melanoleucus Grant, Cat. B. Brit. Mus. xxvi. p. 398 (1898).

The Frilled Shag was not procured by Lord Ranfurly.

The following is a Key to all the species of *Phalacrocorax* found in New Zealand waters:—

- I. Culmen exceeding 1·5 inch from feathers on forehead to tip.
 - A. Tail composed of 14 feathers *carbo.*
 - B. Tail composed of 12 feathers.
 - a. General colour of the under parts smoky-grey.
 - a'. White eyebrow-stripes continued down each side of the neck to the shoulder *punctatus.*
 - b'. No white eyebrow-stripes *featherstoni.*
 - b. General colour of the under parts black.
 - c'. Upper parts bronze-green, each feather with a shining brass-green margin; legs and feet orange *chalconotus.*
 - d'. Upper parts ash, each feather with a black margin; legs and feet black *sulcirostris.*

- c. General colour of the under parts pure white.
- e'. Feathering on the chin not extending beyond a vertical line drawn from the anterior margin of the eye. Purple-black of the sides of the head extends below the commissure of the bill; nasal caruncles largely developed: a white alar bar. *traversi*.
- f'. Feathering on the chin extending beyond a vertical line drawn from the anterior margin of the eye.
- a². Legs and feet red, orange or yellowish in dry skins.
- a³. Fore part of neck white like the throat and rest of the under parts.
- a⁴. With nasal caruncles.
- a⁵. Size larger: culmen 2.55 inches, depth at forehead 0.5, wing 12.0 or more. *carunculatus*.
- b⁵. Size smaller: culmen 2.15, depth at forehead 0.35, wing 10.5 *onslowi*.
- b¹. With no nasal caruncles.
- e⁵. Size larger: culmen 2.0-2.4, wing 11.6. White on fore-neck as wide as the white on the throat.
- a⁶. A white dorsal patch; naked skin round the eye light blue, on lores and sides of face very dark blue; a row of small red warts between the culmen and the eye *stewarti*.
- b⁵. No white dorsal patch; naked skin round the eye purple, lores scarlet with black spots (? minute black plumes) *ranfurlyi*.
- d⁵. Size smaller: culmen 2.05, wing 10.6-10.9. White on the fore-neck much narrower than on the throat *colensoi*.
- b³. Fore part of the neck black, throat and rest of under parts white *campbelli*.
- b². Legs and feet black *varius*.

II. Culmen less than 1.5 inch from feathers on forehead to tip.

- C. Chin, throat, and under parts white *melanoleucus*.
- D. Chin, throat, and sometimes fore neck white, rest of under parts black *brevirostris*.

73. PHAËTHON RUBRICAUDA Bodd.

Phaëthon rubricauda Grant, Cat. B. Brit. Mus. xxvi. p. 451 (1898).

a, b. Adult. Kermadec Islands.

The Red-tailed Tropic Bird.

74. HARPA NOVAE ZEALANDIÆ (Gmel.).

Harpa novæ zealandiæ Buller, B. New Zeal. i. pts. iv.-vi. p. 213, pl. x. (1888).

Nesierax novæ zealandiæ Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 321 (1902).

a. ♀ adult. Adam I., Auckland Is., 7th January, 1901.

b. ♀ adult. Dusky Sound, South I., New Zealand, January 1901.

c. ♀ immature. Dusky Sound, South I., New Zealand, June 1901.

d. ♂ adult. Dusky Sound, South I., New Zealand, July 1901.

e. ♀ adult (in spirits). Port Ross, Auckland Is., 4th July, 1901 (*Commander J. P. Rolleston*).

In the Quail-Hawk the iris is hazel; the cere, the skin round the eye, and the legs and feet yellow. A female (in spirits) is said to have had the bill and skin round the eye grey, and the legs and feet grey tinged with yellow.

Several of the smaller species known as *H. australis* Homb. & Jacq. were also seen, and there is a specimen in the Christchurch Museum from the Auckland Islands. I believe *H. australis* to be the male and *H. novæ zealandiæ* the female of one and the same species (*F. W. Hutton*).

I think there can be no doubt that two closely-allied forms of *Harpa* are found in New Zealand, which appear to differ from one another only in size, the larger being *H. novæ zealandiæ* (Gmel.) and the smaller *H. australis* (Homb. & Jacq.).

In both forms the adults in both sexes have the upper parts blackish spotted and barred with rufous, and the chest and breast buff longitudinally striped with blackish. Likewise, in both, the young have the upper parts uniform sooty-brown irregularly edged and spotted with buff.

The change from the young to the adult plumage is well shown in an immature male collected by Captain L. Strange at the River Hutt.

The following measurements of the wing are taken from the series of thirty-one specimens now in the British Museum :—

<i>H. australis</i>	Males	9.0–9.2 inches.
„	Females	9.7–10.1 „
<i>H. novæ zealandiæ</i> ...	Males	9.8–10.3 „
„	Females	10.8–11.4 „

From this table it will be clearly seen that two forms exist, but the female of *H. australis* and the male of *H. novæ zealandiæ* cannot be recognised with certainty unless the sex has been ascertained.

Mr. Richard Henry writes :—“ There are a good many ‘ Sparrow-Hawks,’ as the colonists call them, about these islands and in the bush, though we seldom see them. They are wary, and fly late in the evening and at dawn, when I often hear the little birds utter their alarm-cries, and know by the way the signal is passed along that one of these swift Hawks is on the hunt in hopes of taking some bird by surprise. I find traces of their work almost as often as I see the birds themselves.

“ One rarely sees one of these Hawks hunting a bird in the open, probably because they rarely get an opportunity of doing so. Their most successful plan of hunting is to fly swiftly through the trees, when they have a great advantage over any bird that fails to see or hear them in time to get a start. I am confident that they catch most of the Pigeons in this way, for they cannot catch a good Pigeon out in the open; though, of course, a time must come in the life of every Pigeon when the young and hardy Hawk can catch it. I have often seen them start a Pigeon with a great rush and clatter, but if the latter succeeds in getting out above the trees they nearly always gave it up.

“ On two occasions I saw them catch Fantails (*Rhipidura*) by a slight divergence in their swift flight, though the Fan-

tail is so nimble that it is the last bird in the bush I would have expected a Hawk to catch.

“Another surprise was the fact that they are able to overtake Parroquets out in the open; they eagerly hunt these birds when away from the trees, and generally catch them, notwithstanding their marvellous speed and activity. Kaka Parrots are poor fliers, but demons to fight, and the Hawks never seem to trouble the old birds, but they sometimes prey on the younger birds.

“In February I saw a pair of young Hawks just learning to fly. They followed my boat among the rocky islets, and every time they lit on a rock lost their balance from want of practice. They were dark brown on the breast and almost slate-coloured on the back. Their gapes were yellow, and their legs of a greenish-yellow colour. I did not observe their parents.

“At Te Anau a pair fed their young ones for some time near my camp, where they were very welcome, because they preyed mostly on young Sparrows, and afforded me an opportunity of studying some of their habits. The male was only about half the size of the female, and he seemed to devote his whole attention to the Sparrows, who occupied many nests in a few solitary trees on the south-east end of the lake, where there is no forest; but the female seems more inclined to hunt Swamp-hens or Wekas. The parents were like ‘Quail-Hawks’ and the young ones like ‘Bush-Hawks,’ so that there may be only one species, which varies a little according to age and the locality the birds live in. I saw the pair hunting in company, and while one was swooping down on the bird the other was mounting; as they swooped alternately, a Parroquet had no chance of escape, and a Starling but little. A Sparrow is too cunning to afford a hunt, for he will not fly in the open, but dives into any sort of cover, even in among ferns; but the Hawk used to fly through the trees where the nests were, and seldom failed to carry off something in his claws.

“When the parents wished to give a little bird to the young ones, they would give vent to a few notes of their laughing

scream to attract attention and then drop the bird in mid-air, when the two young ones would race for it and easily catch it before it fell, and, as usual among birds, the most alert and vigorous got the best of everything."

75. *CYANORHAMPHUS UNICOLOR* (Vigors).

Platycercus unicolor Buller, B. New Zeal. i. pts. iv.-vi. p. 148 (1888).

Cyanorhamphus unicolor Salvad. Cat. B. Brit. Mus. xx. p. 581 (1891); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 316 (1902).

a-c. ♀ adult. Antipodes I., 14th January, 1901.

d. ♂ adult. Antipodes I., 15th July, 1901 (*Commander J. P. Rolleston*).

The Antipodes Parroquet has the iris red. It is a common bird on the island (*F. W. Hutton*).

76. *CYANORHAMPHUS ERYTHROTIS* (Wagl.).

Cyanorhamphus erythrotis Salvad. Cat. B. Brit. Mus. xx. p. 586 (1891).

Cyanorhamphus hochstetteri (Reisch.); Salvad. Cat. B. Brit. Mus. xx. p. 577 (1891); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 315 (1902).

a, b. ♂ adult. Antipodes I., 14th January, 1901.

c. Adult. Antipodes I., 15th July, 1901.

d. Adult. Antipodes I. Presented by Lieut. Kennett Dixon, R.N.

e. ♂ adult. Antipodes I., 29th October, 1899. Presented by Commander R. F. Ayscough, R.N.

f. Adult. Antipodes I. Presented by W. F. Broekholes, Esq.

The Red-eared Parroquet has the iris red, the bill blue, black at the tip, and the legs and feet black.

This is a common species on Antipodes Island, where a yellow variety with the wings and tail-feathers nearly white was captured and kept alive in a cage. It had very little blue on the wings, but all the red parts of the plumage were normal (*F. W. Hutton*).

Commander Ayscough informs us that the male mentioned

above weighed 4 oz., and measured in the flesh $12\frac{1}{4}$ inches in length. When shot it was feeding among tussock-grass, of which the crop contained portions.

77. *CYANORHAMPHUS NOVÆ ZEALANDIÆ* (Sparrm.).

Platycercus novæ zealandiæ Buller, B. New Zeal. i. pts. iv.–vi. p. 137, pl. iv. (1888).

Cyanorhamphus novæ zealandiæ Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 313 (1902).

a. ♂ adult. Dusky Sound, South I., New Zealand, July 1901.

The Red-fronted Parroquet has the iris red, the bill black, bluish towards the base of the upper mandible, and the legs black (*F. W. Hutton*).

78. *CYANORHAMPHUS AUCKLANDICUS* Bonap.

Cyanorhamphus aucklandicus Salvad. Cat. B. Brit. Mus. xx. p. 584 (1891).

a, b. ♂ ♀ adult. Adam I., Auckland Islands, 8th January, 1901.

The Auckland-Island Parroquet has the iris black, the base of upper mandible blue, and the remainder of the bill and legs black (*F. W. Hutton*).

This form is scarcely distinguishable from typical *C. novæ zealandiæ*, but its dimensions are less, the wing measuring 4.6–4.7 inches instead of 5.0–5.3. Moreover, in the majority of specimens, the bill is much smaller, but this does not always hold good in the case of females of *C. novæ zealandiæ*.

79. *CYANORHAMPHUS AURICEPS* (Kuhl).

Platycercus auriceps Buller, B. New Zeal. i. pts. iv.–vi. p. 142, pl. xvi. (1888).

Cyanorhamphus auriceps Salvad. Cat. B. Brit. Mus. xx. p. 587 (1891); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 314 (1902).

a. ♀ adult. Milford Sound, South Island, New Zealand, 23rd April, 1901.

The Yellow-fronted Parroquet has the iris red, the bill blackish-grey, and the feet yellowish-brown (*F. W. Hutton*).

80. *NESTOR NOTABILIS* Gould.

Nestor notabilis Buller, B. New Zeal. i. pts. iv.-vi. p. 166, pl. vi. (1888); Salvad. Cat. B. Brit. Mus. xx. p. 4 (1891); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 319 (1902).

a. ♂ adult. New Zealand.

The Kca Parrot.

81. *NESTOR MERIDIONALIS* (Gmel.).

Nestor meridionalis Buller, B. New Zeal. i. pts. iv.-vi. p. 150, pl. v. (1888); Salvad. Cat. B. Brit. Mus. xx. p. 5 (1891); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 316 (1902).

a. ♂ adult. Milford Sound, South Island, N.Z., 23rd April, 1901.

The Kaka Parrot has the iris dark brown, the bill dark grey and bluish-black, the feet and legs bluish-grey, and the soles yellow (*F. W. Hutton*).

Mr. Richard Henry, of Resolution Island, has supplied Lord Ranfurly with the following notes on this species:—

“I have often found nests of the Kaka Parrot in hollow trees, not far from the ground. There are generally four pure white eggs, but I think the parents seldom rear more than two young ones. Sometimes they have young ones in November and sometimes in April. I do not know which is their favourite breeding-season.

“Their staple food consists of grubs (which they cut out of partly-decayed timber), varied with berries, and with honey which they lick out of the Rata-blossoms in summer, and kernels of Miro-stones in autumn.

“They cut grubs out of a withering *Panax* in such a way that it shows they must have reasoning powers and a distinct knowledge of the relationship between cause and effect. I have often tried to find the grub that was killing the branch, but I usually have to do twice as much cutting as a Kaka would do without finding it.

“Last April I took two young ones as pets, and when the parents saw me leaving the nest they went to it at once, and,

understanding that I had taken their young, followed me down to the boat screaming their loudest for assistance. This attracted all the Kakas within hearing, and they made a great demonstration of sympathy. They often do the same in response to the call of a wounded one, and the shooter may then kill a large number without difficulty.

“They make splendid pets, but are very difficult to feed when young—when a fruit-stone the size of a pea will kill them. They have a greater variety of notes and calls than any other bird met with in this locality.

“When an old Kaka is eating a ripe Miro-berry he rejects the skin and only licks out the little bit of fruit between it and the stone. I think that they also break the stones for sake of the little oily kernels, but I am not quite sure of this*. All the stones are broken, and the Kakas have a substance like the kernels in their crops. The stones are terribly hard to break, but the rats can break them. Kakas also cast up the skins of the big wood-grubs, which look like dry bits of tissue-paper.

“After my pets were able to fly one of them was killed by a Hawk. I heard the scream of distress and went to see what was the matter. Several old Kakas also came to the rescue, and one of them followed the Hawk about through the trees, while others tried to intercept him, but they were not nearly smart enough.

“Many New Zealand trees and shrubs are very erratic seed-producers. In some seasons all berries are scarce, while in others some are plentiful and some are absent; yet the Kakas and Kakapos seem to know beforehand when there will be plenty to feed their young ones and to hatch them at the right time.

“It often happens that the female has a much lighter-coloured head than the male, but no two of them are exactly the same.”

* “I have just found out that the Kakas do break the Miro-stones—when they are green, at all events. They are broken fairly in two, crosswise.”

82. *STRINGOPS HABROPTILUS* G. R. Gray.

Stringops habroptilus Buller, B. New Zeal. i. pts. iv.-vi. p. 176, pl. vii. (1888); Salvad. Cat. B. Brit. Mus. xx. p. 599 (1891); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 320 (1902).

a-c. ♂ ♀ adult. Dusky Sound, South Island, New Zealand.

d, e. Adult (in spirits). Dusky Sound, South Island, New Zealand.

Mr. Richard Henry has supplied Lord Ranfurly with the following notes:—

“The male Kakapo can swell up his ‘air-sac,’ of which the female has no trace, till it is nearly as big as his body, and must be a formidable-looking fellow on parade; I never saw one booming, for they never do so in captivity.

“I went a special trip to Wet Jacket Arm to try and get better acquainted with them, and on the 21st January, 1898, climbed a high ridge south-west of Oke Island. It was very steep and rough, and all along its narrow top for half a mile were a number of ‘dusting-holes,’ as I used to call them, but there was not a particle of dust in them, for there had been about an inch of rain every day for a month. ‘Dusting-holes’ is perhaps a bad name; ‘bowers’ would, I think, be more suitable. They were about 18 inches in diameter, fairly level on the bottom, and 3 inches deep, with steep sides. In some the peaty earth was firmly pressed down as if by the naked hand, while in others it was freshly raked up and loose. All were connected with one another by fresh, well-beaten pathways, and at this season a good many birds must go up there of an evening, but in the off-season the place is deserted. This suggests that the bowers are used for dancing or parades in the courting-season. The Australian Lyre-birds make very similar holes.

“Someone suggested that the booming may be a defiance or a challenge between the males, as is the case of cocks crowing; but I think that among the thinly-scattered population of Kakapos in this dense forest, with such poor means of travelling, it was necessary for either the male or female to have a loud call. The voice of the female Kakapo

is a hoarse cough, and can be only heard for a couple of hundred yards, while the booming of the males can be heard for a couple of miles. Therefore I think it likely that the males take up their places in the 'bowers,' distend their air-sacs, and give vent to their love-songs, and that the females, attracted by the sound, come up to see the show.

"Though one may hear plenty of them in the evenings, it is never possible to tell where they are within a mile, as they do not keep on calling long enough for one to hunt them up. They start with a couple of short grunts, and then utter five or six deep measured notes like the sound of a muffled drum, the loudest in the middle. The male repeats this series about three times in the daylight and is then silent, and other Kakapos, perhaps miles away, take up the sound. On this ridge we got quite close to a calling bird, and can testify as to the power of the note. I could feel the vibration of it, and likewise my boy, who was holding the dog thirty yards away. I thought the drummer was just at my feet, and we stood still for a long time in hopes that he would commence again, but he was silent, and the dog ultimately found him 40 yards away hiding under a log. We had come up with all caution, stopping when he stopped and walking while he was drumming, yet he seemed to have taken alarm. This will show how hard it must be to get right up to a bird, if he takes alarm at that distance. This happened about 4 P.M., but, as a rule, very few birds are drumming so early. In our fortnight's ramble we saw very few ridges that had Kakapos' 'bowers' on them. On many there were none, and on others only one or two, and we never found them below an elevation of 500 or 600 feet above the sea. The birds have peculiar valves in the nostrils, which are larger in the males, and may be a part of the apparatus for drumming. The word 'Kakapo' is compounded of two Maori words: 'Kaka,' a parrot, and 'po,' night, which is very appropriate, because I think they are the only Parrots that feed at night. They have small eyes for night-birds, and often climb trees in the daytime to sit in the sun after a spell of wet weather, which shows that it is not the light

they fear; but probably, like many other creatures, they have chosen the night the better to avoid their enemies.

“The only enemies they have are the sand-flies, which do not come out at night, but collect very quickly about any game they find near the ground in the daylight. The Kakapos’ slow movements would allow them to be punished very severely if they walked about on the ground in the daytime, for, as I know to my cost, the flies are expert at getting in under cuffs and collars, and may do the same with the Kakapo’s loose feathers. Therefore, when the sand-flies have gone to bed the Kakapos come out and gather food in peace and retire in the morning to their dark places, where the former will not enter.

“When in a Penguin’s cave one can always see a cloud of sand-flies near the door, but they will not enter into the gloom. A good many of the wiser Penguins seem to know how far the flies will come in; but some of them place their nests too near the door, where their young ones are severely punished if not killed outright. I had two captive Roas killed by sand-flies.

“I was always puzzled to know how it was the Kakapos got so fat in summer-time; but now I find that they suck the honey out of the Rata-blossoms, like all the other bush-birds, and as this honey is plentiful in the Sounds in December, it must form an important item to mix with their various other foods. On 18th December, with the aid of a little glass syringe, I gathered a teaspoonful of this honey in ten minutes, so it must be easy for the Kakapos to get as much of it as they want. The little branches of the Ratas are very strong and able to bear their weight.”

83. MIRO ALBIFRONS (Gmel.).

Miro albifrons Buller, B. New Zeal. i. pt. ii. p. 36, pl. i. (1887); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 304 (1902).

a, b. ♂ ♀ adult. South Island, New Zealand, January.

c, d. ♀ adult. Dusky Sound, South Island, New Zealand, March.

c. Adult (in spirits). Dusky Sound, South Island, New Zealand, March.

In the female of the South-Island Robin the iris, bill, and legs are black (*F. W. Hutton*).

84. MIRO DANNEFAERDI Rothsch.

Miro dannefaerdi Rothsch. Nov. Zool. i. p. 688 (1894) [Snares Is.]; Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 305 (1902).

a-e. ♂ ♀ adult. Snares, 2nd January, 1901.

The Snares-Island Robin has the iris, bill, and tarsi black, the toes brown, and the soles orange. It is not uncommon on the Snares (*F. W. Hutton*).

85. PETROECA MACROCEPHALA (Gmel.).

Myiomoira macrocephala Buller, B. New Zeal. i. pt. ii. p. 42, pl. v. (1887); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 305 (1902).

a. ♂ adult. Enderby I., Auckland Is., 3rd January, 1901.

b-e. ♂ adult et immature. Enderby, 8th January, 1902.

f. ♂ adult. Enderby, 14th January, 1901.

g. ♂ adult. Dusky Sound, South Island, New Zealand, June 1901.

h. ♀ adult. Dusky Sound, South Island, New Zealand, 19th July, 1901.

Iris brown, the ring round the eye grey, the bill grey, and the legs and feet blackish-grey tinged with yellow (on the soles).

The South-Island Tit is not common in the Auckland Islands (*F. W. Hutton*).

Mr. Richard Henry has supplied Lord Ranfurly with the following notes on its habits:—"This Tit builds its nest under a bank or under a leaning tree, or in some position where the rats cannot get at it. It is evidently due to this precaution that the bird is so plentiful in this rat-infested forest. The female is also an adept in trying to decoy intruders away from her nest. I have seen her tumbling about in the bed of a dry creek as if she was wounded and in great distress, but, knowing that little ruse,

I did not run after her, and soon found the nest, with four young ones, close to my shoulder. Her device must, however, be successful in deceiving her worst enemies, or the habit would not have been acquired and retained by such a large number of birds of all sorts and sizes."

I have carefully compared the birds from Enderby Island with examples from New Zealand; but the former, which were sent home in formaline, having made somewhat faded and draggled skins, render comparison difficult, and it is impossible to say whether the birds from the two localities are absolutely identical. I may point out, however, that males from Enderby Island appear to be a trifle larger, the wing measuring 3.1 inches, while in New Zealand birds it is generally less than 3.0 inches in length.

86. *PSEUDOGERYGONE IGATA* (Quoy & Gaimard).

Currucu igata Quoy et Gaim. Voy. de l'Astrol., Zool. i. p. 201, pl. xi. fig. 2 (1830).

Gerygone flaviventris Buller, B. New Zeal. i. pts. iv.-vi. p. 44 [part.], pl. ii. (1888).

Pseudogerygone igata Grant, Bull. B. O. C. xv. no. cxvi. p. 80 (1905).

a. ♂ adult. Dusky Sound, South Island, New Zealand, March 1901. Ranfurly Coll.

b, c. Adult. Dusky Sound, South Island, June and July. Ranfurly Coll.

The South-Island "Warbler" has the iris, bill, and legs black (*R. Henry*).

The Flycatchers of the genus *Pseudogerygone* from the North and South Islands, though apparently perfectly distinct from one another, have been included under one heading by Sir Walter Buller, and by ornithologists generally. Previous to the arrival of the birds sent home by Lord Ranfurly from South Island, the British Museum did not possess examples of the true *P. igata*, and, as will be seen from the lists given below, all the specimens in the collection appear to have been procured in the North Island. *P. igata* may be distinguished from *P. flaviventris* G. R. Gray by the

lighter olive-brown colour of the upper parts, which shades into a warmer tint on the rump and upper tail-coverts, by having the axillaries, sides, flanks, and under tail-coverts strongly washed with yellow, and the subterminal white bar on the outer pairs of tail-feathers somewhat wider. *The iris is black.*

Of three adult examples of this species in the Tring Museum, only one is labelled "Dunedin, *iris dark.*"

In *P. flaviventris* the general colour above is dark olive-brown with a more olive tinge on the lower back and rump, the entire under parts are grey, whitish on the axillaries and middle of the belly, and very faintly tinged with yellowish on the flanks and under tail-coverts. *The iris is red.*

The synonymy of this species is as follows:—

87. PSEUDOGERYGONE FLAVIVENTRIS G. R. Gray.

Gerygone flaviventris G. R. Gray, Voy. Ereb. & Terror, Birds, p. 5, pl. iv. fig. 1 (1844); Sharpe, t. c., Appendix, p. 25 (1875).

Gerygone aucklandica Pelz. Reise Novara, Vög. p. 65 (1865).

Gerygone sylvestris Potts, Tr. N. Zeal. Inst. v. p. 177 (1873).

Pseudogerygone igata Sharpe (nec Q. & G.), Cat. B. Brit. Mus. iv. p. 218 (1879).

Gerygone flaviventris Buller, B. New Zeal. i. p. 44 [part.] (1888).

Pseudogerygone flaviventris Grant, Bull. B. O. C. xv. no. exvi. p. 81 (1905).

The following specimens are in the British Museum:—

a. Adult [juv. sk., *vide* Sharpe]. Bay of Islands, North Island, New Zealand (*Lieut. A. Smith*). Voyage of the 'Erebus' and 'Terror.' *Type of the species.* [42.12.16.39.]

b, c. Adult. Bay of Islands (*Lieut. A. Smith*). Voyage of the 'Erebus' and 'Terror.' [43.9.16. 11 & 12.]

d, e. ♂ ♀ adult. [North Island] (*F. Strange*). Presented by Capt. Stokes, R.N.

f. Adult. [North Island.] Zoological Society's Collection.

Though unable to trace the history of specimen "f," I am probably justified in regarding it as having come from North Island, as it is precisely similar to the specimens "a-c"; specimens "d & e" are likewise almost certainly from the North Island, but I have been unable to obtain any satisfactory proof of this.

Dr. Sharpe [Zoology of the 'Erebus' and 'Terror,' Appendix, p. 25 (1875)] states that in company with Dr. Oustalet he had examined the type of *Gerygone igata*, which still existed in the Jardin des Plantes, and considered that it was distinct from *G. flaviventris*. Subsequently, however, when writing the Catalogue of Birds, he appears to have changed his mind, and come to the conclusion that the names were synonymous.

There can, I think, be no doubt that *G. sylvestris* Potts, from Westland, South Island, is synonymous with the present species. As in *P. flaviventris*, the iris is red.

88. RHIPIDURA FLABELLIFERA Gmel.

Rhipidura flabellifera Buller, B. N. Zeal. i. pt. ii. p. 69, pl. iv. (1887); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 310 (1902).

a, b. ♀ adult. Dusky Sound, South Island, New Zealand, March 1901.

The Pied Fantail-Flycatcher has the iris and legs black (*F. W. Hutton*).

The above specimens have the upper parts rather darker than the majority of specimens and the breasts unusually deeply coloured: this is, however, probably due to some impurity in the formaline in which they were sent home.

89. RHIPIDURA FULIGINOSA (Sparrm.).

Rhipidura fuliginosa Buller, B. New Zeal. i. pt. ii. p. 72, pl. iv. (1887); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 310 (1902).

a, b. ♂ adult. Dusky Sound, South Island, New Zealand, March 1901.

The Sooty Fantail-Flycatcher has the iris, upper mandible, and legs black, and the lower mandible white.

90. CLITONYX OCHROCEPHALA (Gmel.).

Clitonyx ochrocephala Buller, B. New Zeal. i. pt. ii. p. 56, pl. ii. (1887).

Mohua ochrocephalus Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 306 (1902).

a, b. ♂ ♀ adult. Dusky Sound, South Island, New Zealand, March 1901.

c. ♂ adult. Dusky Sound, South Island, New Zealand, June 1901.

The male of the "Yellow-head" or "Canary," as it is often locally termed, has the iris, bill, and legs black; in the female the iris and bill are black, the legs dark, and the feet lighter (*F. W. Hutton*).

91. CERTHIPARUS NOVÆ ZEALANDIÆ (Gmel.).

Certhiparus nova zealandiæ Buller, B. New Zeal. i. pt. ii. p. 51, pl. ii. (1887); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 306 (1902).

a-d. ♂ ♀ adult. Dusky Sound, South Island, New Zealand, March 1901.

The New Zealand "Creeper" has the iris black, and the bill and legs brown or grey (*F. W. Hutton*).

92. ANTHORNIS MELANURA (Sparfm.).

Anthornis melanura, Buller, B. New Zeal. i. pp. 85, 242 (woodcut of nest and eggs) (1888); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 310 (1902).

a. Immature. Enderby I., Auckland Is., 3rd January, 1901.

b, c. ♀ adult et immature. Port Ross, Auckland Is., 4th January, 1901.

d. Immature. Adam I., Auckland Is., 8th January, 1901.

e, f. ♂ adult. Epijwart, Auckland Is., 8th January, 1901.

g-i. Pullus (in spirits). Adam I., Auckland Is., 8th January, 1901.

The iris is red, the bill black, the legs and feet slate-colour (*Ranfurlly*).

The Bell-bird was common in the Auckland Islands. The nest sent was found in a grass-tussock (*F. W. Hutton*).

93. PROSTHEMADERA NOVÆ ZEALANDIÆ (Gmel.).

Prosthemadera novæ zealandiæ, Buller, B. New Zeal. i. pt. iii. pp. 94, 242, pl. ii. fig. (woodcut of nest and eggs) (1888), ii. p. 338 [Kermadecs]; Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 311 (1902).

a, b. Adult et immature. Port Ross, Auckland Is., 4th January, 1901.

The Tui or Parson-bird is common on the Auckland Islands (*F. W. Hutton*).

94. ZOSTEROPS CŒRULESCENS Lath.

Zosterops cœrulescens Buller, B. New Zeal. i. pt. iii. p. 77, pl. i. (1888), ii. p. 338 (1888) [Kermadecs]; Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 310 (1902).

Zosterops lateralis Filhol, Mém. Ac. France, Pass. Vénus, Miss. de l'Île Campbell, iii. pt. ii. p. 37 (1885).

a, b. ♀ adult. Snares, 2nd January, 1901.

c, d. Adult. Enderby I., Auckland Is., 3rd January, 1901.

e, f. Adult. Auckland Is., 8th January, 1902.

We found the White-eye both on the Snares and Auckland Is., and Filhol has reported its presence on Campbell Island. A nest with three addled eggs was found on the Auckland Islands in the branches of a *Dracophyllum longifolium* (*F. W. Hutton*).

Iris dark brown, the bill black, greyish at the base, and the legs and feet slate-grey (*Ranfurlly*).

95. BOWDLERIA CAUDATA (Bull.).

Sphenæacus fulvus Buller (nec G. R. Gray), B. New Zeal. i. p. 61 (1888).

Sphenæacus caudatus Buller, Ibis, 1894, p. 523; id. Tr. New Zeal. Inst. xxvii. p. 128 (1895).

Bowdleria caudata Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 307, pl. xii. fig. 2 (1902).

a-d. ♂ ♀ adult. Snares, 2nd January, 1901.

The Snares Fern-bird has the iris hazel and the bill and legs brown. It is a common species on the islands (*F. W. Hutton*).

This well-marked species is easily distinguished from *B. fulva* (G. R. Gray) by its larger size and much heavier bill, and by having the feathers of the sides and flanks indistinctly streaked along the shafts with blackish, while in *B. fulva* these feathers are very conspicuously streaked with black down the middle.

		Wing.	Culmen.
		in.	in.
<i>B. caudata</i>	Male	2·75	0·69
	Female	2·6	0·62
<i>B. fulva</i>	(Sex not indicated)	2·3-2·45	0·5-0·52

96. *ANTHUS STEINDACHNERI* Reiser.

Anthus steindachneri Sharpe, Bull. B. O. C. xiii. no. xvii. p. 59 (1903).

Anthus novæ zealandiæ steindachneri Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 309, pl. xii. fig. 4 (1902).

a. Adult. Port Ross, Auckland Is., 4th January, 1901.

b. Immature. Campbell I.

c-e. ♀ adult et ♂ immature. Antipodes I., 14th January, 1901.

f. ♀ adult. Antipodes I. Presented by Lieut. Kennett Dixon, R.N.

Steindachner's Pipit has the iris black and the legs and feet brown. It was not uncommon on the Auckland and Antipodes Islands, and its powers of flight were very limited (*F. W. Hutton*).

I have examined a series of specimens in the Tring Museum from Antipodes and Auckland Islands, all of which belong to the present form, and differ constantly from *A. novæ zealandiæ* in having the breast buff-coloured.

97. *XENICUS LONGIPES* (Gmel.). (Plate XII. fig. 1.)

Xenicus longipes Buller, B. New Zeal. i. pt. iii. p. 108, pl. iv. (1888) [part.]; Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 312 (1902); Grant, Bull. B. O. C. xv. no. cix. p. 15 (1904).

a, b. ♂ adult. Dusky Sound, Otago District, S. Island, New Zealand, March 1901.

c. ♂ adult. Nelson, S. Island, New Zealand, 1st May, 1897.

d. ♀ immature. Nelson, January 1901.

Judging from the large series kindly lent me by Mr. Walter Rothschild, and from the specimens in the British Museum, which together number forty-six, the fully adult male and female of this species do not differ from one another in plumage; and the bird with the upper parts umber-brown, which both Sir Walter Buller and Dr. Selater describe as the adult female, is really immature.

The range of this species is confined to South Island, New Zealand.

In some examples of *X. longipes* the scale covering the front of the tarso-metatarsus is entire, but occasionally it is divided into separate scales.

The wing measures 2·2–2·3 inches.

98. *XENICUS STOKESI* G. R. Gray. (Plate XII. figs. 2 & 3.)

Xenicus longipes Buller, B. New Zeal. i. p. 108 (1888) [part., North Island].

Xenicus stokesi G. R. Gray, Ibis, 1862, p. 210; Grant, Bull. B. O. C. xv. no. eix. p. 15 (1904).

Xenicus gilviventris Selater (nec v. Pelz.), Cat. B. Brit. Mus. xiv. p. 453 (1888). [Type of *X. stokesi* Gray.]

The type of this species, an immature bird, was procured for Capt. Stokes, either by Dr. Lyall or by Mr. F. Strange*, in the Rimataka Ranges of Wellington District, North Island. An adult bird, also procured at the same time, was identified as *X. longipes* by G. R. Gray (*cf.* 'Ibis,' 1862, p. 218). There can be no doubt that these two specimens are adult and immature examples of the same species. The adult may be at once distinguished from *X. longipes* by the shining slate-blue sides of the neck and chest tinged, in certain lights, with greenish, and by the patch of pure yellow feathers on the yellowish-green flanks. In the adult of *X. longipes* the sides of the neck and chest are grey, and the

* The original labels have unfortunately been removed.

flanks uniform yellowish-green, even in the most brightly-coloured specimens. The bird described by Dr. Selater [Cat. B. Brit. Mus. xiv. p. 453 (1888)] as the adult of *X. gilviventris* v. Pelz. is the immature type specimen of *X. stokesi*.

In both examples of *X. stokesi* the scale covering the front of the tarso-metatarsus is entire.

The wing measures 2·1 inches in the adult bird and 2·25 in the immature type specimen.

99. *XENICUS GILVIVENTRIS* v. Pelz.

Xenicus gilviventris Buller, B. New Zeal. i. pt. iii. p. 111, pl. iv. (1888); Grant, Bull. B. O. C. xv. no. cix. p. 16 (1904).

a-c. Adult et immature. Lake Te Anau, Otago District, South I., New Zealand, March 1903.

d. ♂ adult. Long Sound, Otago District, March 1897.

e. ♀ adult. Long Sound, Otago District, 20th April, 1897.

I have examined 21 examples of this species, the majority of which have been kindly lent me by Mr. Walter Rothschild. The fully adult male and female do not differ from one another in plumage, the upper parts being greenish-olive, shading into greyish-brown on the crown. Immature specimens of both sexes have the upper parts dull yellowish-brown, shading into umber on the crown. A specimen in the Tring Museum (*Buller*), which appears to be in a still younger stage of plumage, has the upper parts tinged with dull greenish.

The wing measures 2·0 inches.

As I have already pointed out, two species of *Acanthidositta* occur in New Zealand and have been united by Sir Walter Buller under the name of *A. chloris*. Thanks, however, to the specimens sent home by Lord Ranfurly it is now clear that *A. chloris* (Sparrm.) and *A. citrina* (Gmel.) are perfectly distinct species, and should be distinguished as follows:—

100. ACANTHIDOSITTA CHLORIS (Sparbm.).

Sitta chloris Sparbm. Mus. Carls. no. 33, pl. 33 (1787).

Acanthisitta chloris Finsch, Trans. New Zeal. Inst. vii. p. 227 (1875).

Acanthidositta chloris Selater, Cat. B. Brit. Mus. xiv. p. 451 (1888) [part.]; Grant, Bull. B. O. C. xv. no. cxvi. p. 82 (1905).

a, b. ♂ adult. Avondale Station, Marlborough, South I., New Zealand (*C. G. Teschemaker*). Ranfurly Coll.

c-e. ♂ adult et ♂ pullus (in spirits). Avondale Station, Marlborough, South I., New Zealand (*C. G. Teschemaker*). Ranfurly Coll.*

The *adult male*, contrary to what has been generally believed, has the forehead and fore part of the crown reddish-olive-brown, shading into olive-green on the hinder part of the crown and upper parts. The wing in six specimens measures 1·85–1·9 inch; tarsus 0·75.

In the *adult female* the crown is olive-green like the rest of the upper parts, only the feathers at the base of the bill inclining to olive-brown. The wing measures 1·9 inch; tarsus 0·73.

Young birds have the upper parts olive-green like the adult, only the feathers of the crown and nape being pale brown with marginal streaks of blackish, and the chin, throat, and breast more faintly spotted with brown than in the young of *A. citrina*. I have examined four specimens in this stage of plumage, two being young males preserved in spirits, sent with their male parent from Marlborough.

101. ACANTHIDOSITTA CITRINA (Gmel.).

Citrine Warbler Lath. Gen. Syn. ii. pt. ii. p. 464 (1783) [Dusky Bay, N.Z.].

Motacilla citrina Gmel. Syst. Nat. i. p. 979 (1788, ex Lath.).

Acanthisitta citrina Finsch, Trans. New Zeal. Inst. vii. p. 228 (1875).

* All the specimens in spirits are said to have been collected by Mr. C. G. Teschemaker at Avondale Station; but possibly some mistake has been made.

Acanthidositta chloris Sclater, Cat. B. Brit. Mus. xiv. p. 451 (1888) [part.].

Acanthidositta citrina Grant, Bull. B. O. C. xv. no. cxvi. p. 83 (1905).

a. ♂ adult. Dusky Sound, Otago Dist., South I., New Zealand, March 1901. Ranfurly Coll.

b, c. ♀ adult et ♂ pullus (in spirits). Avondale Station, Marlborough, South I., New Zealand (C. G. Teschemaker). Ranfurly Coll.*

This species has been generally confounded with the closely allied form *A. chloris* (Sparrm.), but the *adult male* may be at once recognised by the wide and strongly defined white eyebrow stripe and by having the mantle and back of a bright sap-green colour, the rump and upper tail-coverts yellow, faintly tinged with greenish, but contrasting strongly with the back; and the sides, flanks, and under tail-coverts bright yellow. Iris and bill black, legs brown, feet light yellow. Size larger than in *A. chloris*. Wing 2·05–2·1 inches; tarsus 0·81.

The *adult female* differs chiefly from the female of *A. chloris* by having the feathers of the head and nape light brown with marginal streaks of black (as in the immature bird); the superciliary stripe white and very strongly defined; the back dark olive-brown, indistinctly streaked with blackish in younger birds; and the rump and upper tail-coverts brownish-yellow. Wing 1·9–2·0 inches; tarsus 0·8.

Young birds may be distinguished from the young of *A. chloris* by having less green on the upper parts, only the rump and outer margins of the quills being tinged with olive. The pale brown black-edged feathers, confined to the head and nape in the young of *A. chloris*, extend over the back in the present species, and the spotting on the throat and breast is much bolder.

This difference in plumage cannot be dependent on sex; for Mr. W. P. Pycraft has ascertained, from an examination of three young birds in spirits of about the same age, that

* See footnote on p. 595.

one specimen with the entire back striped and two with the back olive-green are males.

In 1875 Dr. Finsch (*op. cit.*) indicated the fact that *A. citrina* (Gmel.) was distinct from *A. chloris* (Sparrm.), and to some extent he pointed out the distinguishing characters of the female of the former, as well as the difference in size. Sir Walter Buller did not believe in these differences [*cf.* B. New Zealand, i. p. 114 (1888)], but apparently Dr. Finsch was right.

102. TURNAGRA CRASSIROSTRIS.

Turnagra crassirostris Buller, B. New Zeal. i. pt. i. p. 31, pl. iv. (1887); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 304 (1902).

a, b. Adult. South Island, New Zealand, January 1901.

c. Adult. Dusky Sound, South Island, N.Z., June 1901.

The South-Island Thrush has the iris, bill, and legs black (*R. Henry*).

According to Sir W. Buller the iris is yellow.

Mr. Richard Henry, of Resolution Island, forwards the following note on this species:—

“There are no South-Island Thrushes living permanently on Pigeon Island, but some time ago a solitary individual of this species came to my house and became almost too tame, for it would come into the room and hop about the breakfast table, tasting everything and eating a few crumbs of bread and fish. It stayed for some months and then went away for good.

“Its song is not unlike the first few notes of the Song-Thrush, but is uttered more in snatches and has many notes of its own; the voice is loud and fine.

“Both species are also somewhat alike in size and appearance, but very different in habits.

“The New Zealanders are all remarkably tame and often come into the tent and eat scraps like a Robin, but, unlike the Robin, there may be several Thrushes together, and all good friends.

“They live mostly in the bottoms of warm valleys, where

the fruit-bearing scrubs are most plentiful. I have often seen them eating fuchsia-berries, and the Thrush at my house cleared the place of spiders and could shell oats like a Sparrow.

"They are among the first birds to disappear before the settlers, and are never plentiful even in the most suitable and uninhabited places. I never found a nest of this species.

"They have peculiar ears. A purse of tender skin goes down into the ear with no apparent hole in the skin. I have never heard of such an efficient ear-protector in other birds." *

103. *GLAUCOPIS CINEREA* Gmel.

Glaucopis cinerea Buller, B. New Zeal. i. pt. i. p. 5, pl. i. (1887); Lorenz-Liburnau, Ann. Hofmus. Wien, xvii. p. 302 (1902).

a. ♂ adult. Dusky Sound, South I., New Zealand, June 1901.

b. Adult (in spirits). Dusky Sound, South I., New Zealand, June 1901.

The Orange-wattled Crow has the iris, bill, and feet black (*R. Henry*).

INTRODUCED SPECIES.

1. *TURDUS MERULA* Linn.

Merula merula Seebohm, Cat. B. Brit. Mus. v. p. 235 (1881).

The Blackbird was seen on the Auckland Islands, and is said to occur on Campbell Island.

2. *TURDUS MUSICUS* Linn.

Turdus musicus Seebohm, Cat. B. Brit. Mus. v. p. 191 (1881).

a. Adult. Snares, 2nd January, 1901.

"A nest of the Song-Thrush containing three young

* In this connection attention may be drawn to Mr. W. P. Pycraft's paper on *Acanthidositta*. In this bird the ear opens into an extraordinary pocket of skin. Cf. *infra*, p. 607.

birds was found on the Snares ; it was built in the hollow stump of a tree" (*F. W. Hutton*).

3. *CARDUELIS CARDUELIS* (Linn.).

Carduelis carduelis Sharpe, Cat. B. Brit. Mus. xii. p. 185 (1888).

"The Goldfinch was seen on the Snares and on Bollons Island, Antipodes ; it has also been reported from Campbell Island" (*F. W. Hutton*).

II.—BIRDS FROM THE COOK ISLANDS.

Examples of the following birds from Raratonga, Cook Islands, were procured for Lord Ranfurly by Lt.-Colonel Gudgeon, C.M.G., and sent home in formaline. They were subsequently made into skins.

1. *PTILOPUS RAROTONGENSIS* Hartl. & Fiesch.

Ptilopus rarotongensis Wiglesw. Ibis, 1891, p. 574 ; Salvad. Cat. B. Brit. Mus. xxi. p. 103 (1893).

a. ♂ adult. Raratonga, Cook Is., March 1901.

Col. Gudgeon writes : "The native name of the Raratonga Fruit-Pigeon is 'Kukupu' ; it has the bill green."

2. *GLOBICERA PACIFICA* (Gmel.).

Globicera pacifica Salvad. Cat. B. Brit. Mus. xxi. p. 173 (1893).

a. ♀ adult. Raratonga, Cook Is., March 1901.

"The native name of this Fruit-Pigeon is 'Rupe'" (*Col. Gudgeon*).

3. *ANOUS STOLIDUS* (Linn.).

Anous stolidus Saunders, Cat. B. Brit. Mus. xxv. p. 136 (1896).

a, b. ♂ ♀ adult. Raratonga, Cook Is., 11th March, 1901.

"The native name of the Noddy is 'Ngoio' ; it has the bill and legs black" (*Col. Gudgeon*).

4. *GYGIS CANDIDA* (Gmel.).

Gygis candida Saunders, Cat. B. Brit. Mus. xxv. p. 149 (1896).

a. ♀ adult. Raratonga, Cook Is., 8th March, 1901.

“The native name of the White Tern is ‘Kakaia’; it has the iris black and the bill and legs steel-blue” (*Col. Gudgeon*).

5. HETERACTITIS INCANUS (Gmel.).

Heteractitis incanus Sharpe, Cat. B. Brit. Mus. xxiv. p. 453 (1896).

a. ♂ adult. Raratonga, Cook Is., 7th March, 1901.

“The native name of the American Tattler is ‘Patangaroa’; the iris, bill, and legs are black” (*Col. Gudgeon*).

The specimen sent is in winter plumage.

6. DEMIEGRETTA SACRA (Gmel.).

Demiegretta sacra Sharpe, Cat. B. Brit. Mus. xxvi. p. 137 (1898).

a. ♂ adult (*dark phase*). Raratonga, Cook I., 11th March, 1901.

“The native name of the Reef-Heron is ‘Kotu-ku’” (*Col. Gudgeon*).

7. URODYNAMIS TAITIENSIS (Sparrrn.).

Urodynamis taitiensis Shelley, Cat. B. Brit. Mus. xix. p. 314 (1891).

a. Adult. Raratonga, Cook Is.

“The native name of the Long-tailed Cuckoo is ‘Karavea’; the iris is yellow, the upper mandible dark brown and the lower yellow” (*Col. Gudgeon*).

8. CHASIEMPIS DIMIDIATA (Hartl. & Finsch).

Chasiempis dimidiata Sharpe, Cat. B. Brit. Mus. iv. p. 232 (1879).

Monarcha dimidiata Wieglesw. Abh. zool. Mus. Dresd. 1890-91, no. 6, p. 19 (1892).

a, b. ♂ ♀ adult. Raratonga, Cook Is., March 1901.

Col. Gudgeon writes:—“The native name of this Fly-catcher is ‘Kakerori’; it has the iris black, and the legs and mandibles steel-blue. It is a rare bird on the island.”

This species is new to the British Museum. The male is rather a poor specimen, in moult, the tail being represented

by a few partially grown feathers; but the species is a very valuable addition to the National Collection.

9. *APLONIS CINERASCENS* Hartl. & Finsch.

Aplonis cinerascens Sharpe, Cat. B. Brit. Mus. xiii. p. 133 (1890); Wiglesw. Abh. zool. Mus. Dresd. 1890-91, no. 6, p. 43 (1892).

a-c. ♂ adult. Raratonga, Cook Is., March 1901.

Col. Gudgeon writes:—"The native name of this Starling is 'Toikaranga'; it has the iris black, with an outer ring of yellow, and the legs and mandibles black."

The British Museum Collection contained an adult pair also collected on Raratonga by Mr. H. Travers.

III.—BIRDS OF NIUE OR SAVAGE ISLAND.

The following is a list of the species of birds procured by Lord Ranfurly from Niue or Savage I., Friendly Islands. The specimens were forwarded in formaline and afterwards converted into skins.

1. *PTILOPUS PORPHYRACEUS* (Forst.).

Ptilopus porphyraceus Wiglesw. Ibis, 1891, p. 575; Salvad. Cat. B. Brit. Mus. xxi. p. 100 (1893).

a. Adult. Niue, Friendly Islands, 17th June, 1902.

The native name for this Fruit-Pigeon is "Kulu Kulu."

2. *PORZANA TABUENSIS* (Gmel.).

Porzana tabuensis Sharpe, Cat. B. Brit. Mus. xxiii. p. 111 (1894).

a. Immature. Niue, Friendly Islands, 17th April, 1902.

The native name of this diminutive Rail is "Moho."

This young bird differs from the adult in having the upper parts mostly black, scarcely tinged with deep chestnut-olive, and the chin, middle of the throat, fore-neck, and breast whitish.

3. *HETERACTITIS INCANUS* (Gmel.).

Heteractitis incanus Sharpe, Cat. B. Brit. Mus. xxiv. p. 453 (1896).

a. Adult (summer). Niue, Friendly Islands.

b. Adult (winter). " " "

The native name of the American Tattler is "Kui."

4. *VINI AUSTRALIS* (Gmel.).

Vini australis Salvad. Cat. B. Brit. Mus. xx. p. 43 (1891).

Coriphilus australis Wigglesw. Abh. zool. Mus. Dresd. 1890-91, no. 6, p. 9 (1892).

a, b. Adult. Niue, Friendly Islands.

The native name of this small Lory is "Henga."

5. *URODYNAMIS TAITIENSIS* (Sparrm.).

Urodynamis taitiensis Shelley, Cat. B. Brit. Mus. xix. p. 314 (1891).

a. Adult. Niue, Friendly Islands.

The native name of the Long-tailed Cuckoo is "Kalue."

6. *COLLOCALIA FRANCICA* (Gmel.).

Collocalia francica Hartert, Cat. B. Brit. Mus. xvi. p. 503 (1892).

a. Adult. Niue, Friendly Islands.

The native name of this small Edible Swiftlet is "Peka Peka."

7. *LALAGE WHITMEEI* Sharpe.

Lalage whitmeei Sharpe, Cat. B. Brit. Mus. iv. p. 100 (1879); Wigglesw. Abh. zool. Mus. Dresd. 1890-91, no. 6, p. 25 (1892).

a, b. Adult et immature. Niue, Friendly Islands.

The native name of this Cuckoo-Shrike is "Hea Hea."

8. *APLONIS BRUNNESCENS* Sharpe.

Aplonis brunnescens Sharpe, Cat. B. Brit. Mus. xiii. p. 132 (1890); Wigglesw. Abh. zool. Mus. Dresd. 1890-91, no. 6, p. 43 (1892).

a-e. Adult. Niue, Friendly Islands.

The native name of this Starling is "Misi."



A. C. Fowler, Imp

1. XENICUS LONGIPES
Adult Male

2, 3. XENICUS STOKESI:
(2) Adult Male and (3) immature (type of the species).